

STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

IN RE: :  
: :  
A PETITION OF CELLCO PARTNERSHIP : PETITION NO. \_\_\_\_  
D/B/A VERIZON WIRELESS FOR A :  
DECLARATORY RULING ON THE NEED TO :  
OBTAIN A SITING COUNCIL CERTIFICATE :  
FOR THE INSTALLATION OF A SMALL :  
CELL TELECOMMUNICATIONS FACILITY :  
AT 172 MAIN STREET, KILLINGLY, :  
CONNECTICUT : JANUARY 8, 2015

PETITION FOR A DECLARATORY RULING:  
INSTALLATION HAVING NO  
SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT

I. Introduction

Pursuant to Sections 16-50j-38 and 16-50j-39 of the Regulations of Connecticut State Agencies (“R.C.S.A.”), Cellco Partnership d/b/a Verizon Wireless (“Cellco”) hereby petitions the Connecticut Siting Council (the “Council”) for a declaratory ruling (“Petition”) that no Certificate of Environmental Compatibility and Public Need (“Certificate”) is required under Section 16-50k(a) of the Connecticut General Statutes (“C.G.S.”) to install a new “small cell” telecommunications stub-tower and antenna disguised as a smokestack, on the roof of the Killingly Town Hall building at 172 Main Street (Route 12) in Killingly, Connecticut (the “Property”). The Property is owned by the Town of Killingly and is identified as Cellco’s “Danielson SC2 Facility”.

II. Factual Background

The Property is a 0.64-acre parcel in the Danielson section of Killingly. The Property is located in Killingly’s Central Business District (CBD) zone and is surrounded by commercial

and residential uses along Main Street, School Street and Center Street. *See* Attachment 1 – Site Vicinity and Site Schematic Maps (Aerial Photograph).

Cellco wireless service in downtown Danielson is currently provided by Cellco’s Danielson, Killingly Center and Danielson West cell sites. Cellco’s Danielson cell site, located approximately one mile to the southeast, consists of antennas at the 155-foot level on a tower at 246 East Franklin Street in Killingly. Cellco’s Killingly Center cell site, located approximately three (3) miles to the north, consists of antennas at the 108-foot level on a tower at 79 Putnam Pike in Killingly. Cellco’s Danielson West cell site, located approximately three (3) miles to the west, consists of antennas at the 127-foot level on a tower at 146 Brown Road in Brooklyn. As depicted on coverage maps included in Attachment 2, Cellco maintains gaps in its 2100 MHz wireless service along portions of I-395, Route 12 (Main Street) and in the downtown Danielson area. In addition, the Danielson SC2 Facility will off-load capacity from the Gamma sector antennas of Cellco’s Danielson cell site and, to a lesser extent, the Alpha sector antennas of Cellco’s Danielson West cell site. The downtown Danielson area has been identified as a data traffic concentration area that contributes to these existing capacity problems. In an effort to resolve these coverage and capacity problems and provide customers with improved wireless service in the area, Cellco proposes to install a mast-mounted small cell antenna on the roof of the Killingly Town Hall.

### III. Proposed “Small Cell” Facility

Cellco is licensed to provide wireless telecommunications services in the 850 MHz, 1900 MHz, 700 MHz and 2100 MHz frequency ranges in Killingly and throughout the State of Connecticut. Initially, the proposed Danielson SC2 Facility described above will provide wireless service in Cellco’s 2100 MHz frequency range only. The proposed Danielson SC2

Facility would consist of a single canister-type antenna attached to a small mast and a single Remote Radio Head (“RRH”) attached to the rear wall of the building. The mast and canister antenna will be concealed within a faux chimney stack. The faux chimney stack will extend approximately six (6) feet above an existing chimney, approximately 64 feet above ground level (“AGL”). Equipment associated with the Danielson SC2 Facility will be located inside an electrical room in the basement of Town Hall. Power and telephone service to the Danielson SC2 Facility will extend from existing service along Main Street. (See Cellco’s Project Plans included in Attachment 3). Specifications for the “small cell” antenna (Model NH65PS-DG-F0M) and RRH (Model 2X60-HW) are included in Attachment 4.

#### IV. Discussion

##### A. The Proposed Facility Modifications Will Not Have A Substantial Adverse Environmental Effect

The Public Utility Environmental Standards Act (the “Act”), C.G.S. § 16-50g et seq., provides for the orderly and environmentally compatible development of telecommunications facilities in the state to avoid “a significant impact on the environment and ecology of the State of Connecticut.” C.G.S. § 16-50g. To achieve these goals, the Act established the Council, and requires a Certificate of Environmental Compatibility and Public Need for the construction of cellular telecommunication facilities “that may, as determined by the council, have a substantial adverse environmental effect”. C.G.S. § 16-50k(a).

##### 1. Physical Environmental Effects

Cellco respectfully submits that the installation of a mast and small cell antenna concealed in a faux chimney stack, a RRH attached to the building and equipment located inside the existing building, will not involve a significant alteration in the physical and environmental characteristics of the Property. No ground disturbance of any kind is necessary or proposed as a

part of the Danielson SC2 Facility installation.

2. Visual Effects

The installation of a small mast and a single canister-type antenna concealed in a faux chimney stack and a façade-mounted RRH on the existing building would have minimal visual effects on the Property and the surrounding area. (See Visual Memorandum and Photographic Simulations included in Attachment 5). As concluded in the attached Limited Visual Assessment and Photo-Simulations, visibility of this small cell installation would be limited to locations within a block of the Property where the west side of the building is visible today. The concealment of the mast and antenna in a faux stove exhaust pipe is intended to blend into and appear as a part of the existing structure. The installation at the Property, therefore, would have little or no visual impacts of surrounding land uses.

3. FCC Compliance

Radio frequency (“RF”) emissions from the proposed installation will be far below the standards adopted by the Federal Communications Commission (“FCC”). Included in Attachment 6 is a General Power Density table, including a calculation that Celco’s “small cell” facility will operate well within the FCC safety standard.

4. FAA Summary Report

Included in Attachment 7 is a Federal Airways & Airspace Summary Report verifying that the new small cell mast disguised as a faux chimney stack will require the filing of a notice with the FAA.

B. Notice to the Town Manager, Property Owner and Abutting Landowners

On January 8, 2015, a copy of this Petition was sent to John Hallbergh, Chairman of Killingly’s Town Council and to Richard Ives, First Selectman for the Town of Brooklyn,

Connecticut. The Town of Killingly is the owner of the Property. The Brooklyn town line is located within 2500 feet of the Property. Included in Attachment 8 are copies of the letters sent to Mr. Hallbergh and Mr. Ives.

Notice of Cellco's intent to file this Petition along with a set of project plans and the Site Schematic/Aerial Photograph was sent to the owners of land that abuts the Property. A sample abutter's letter and the list of those abutting landowners who were sent notice of the filing of the Petition is included in Attachment 9.

V. Conclusion

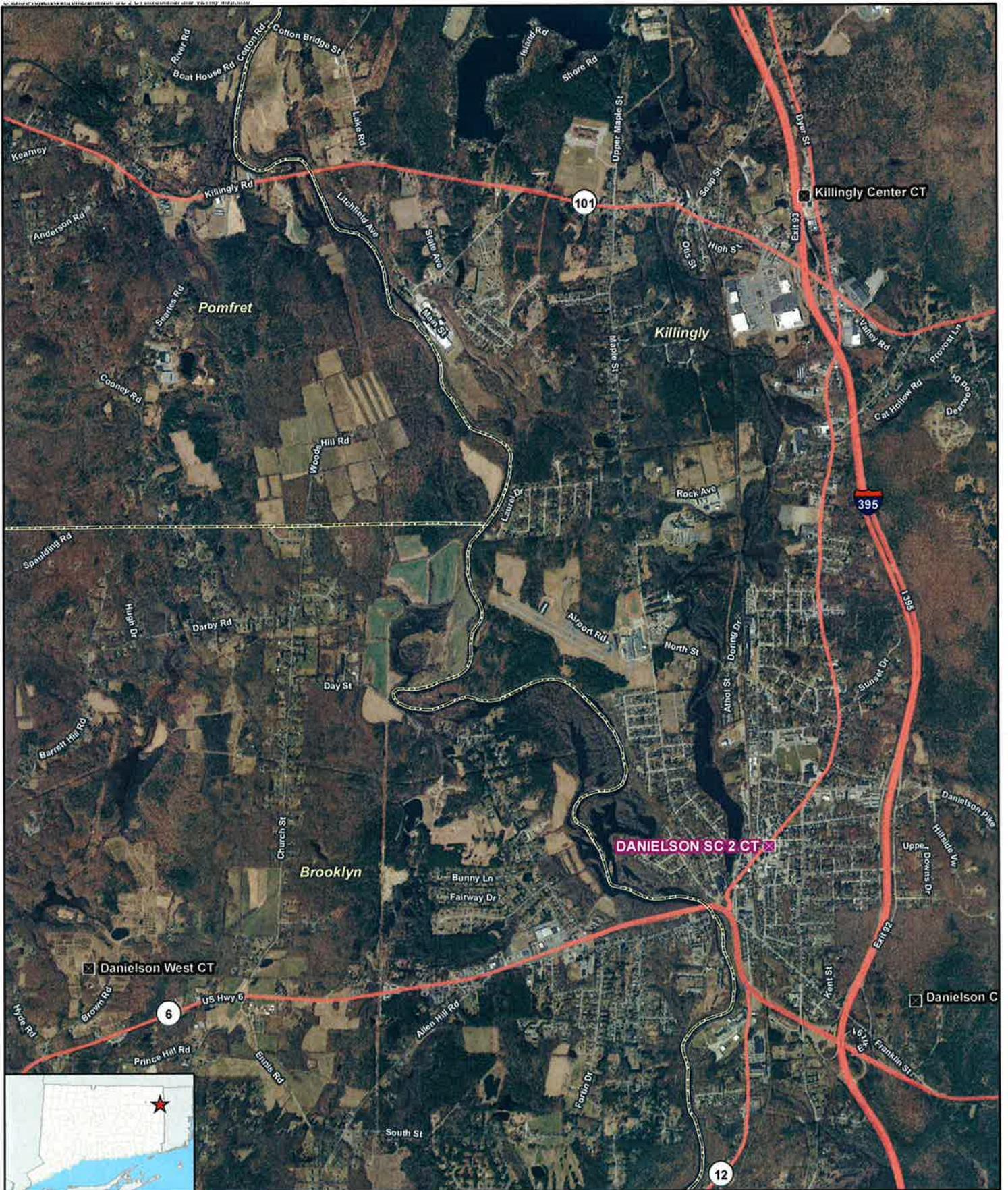
Based on the information provided above, Cellco respectfully requests that the Council issue a determination in the form of a declaratory ruling that the installation of a small mast and antenna concealed in a chimney stack and a RRH will not have a substantial adverse environmental effect and does not require the issuance of a Certificate of Environmental Compatibility and Public Need pursuant to § 16-50k of the General Statutes.

Respectfully submitted,

CELLCO PARTNERSHIP d/b/a VERIZON  
WIRELESS

By   
Kenneth C. Baldwin, Esq.  
Robinson & Cole LLP  
280 Trumbull Street  
Hartford, CT 06103-3597  
(860) 275-8200  
Its Attorneys

# **ATTACHMENT 1**



**Legend**

- ✕ Proposed Verizon Wireless Facility
- Surrounding Verizon Wireless Facilities
- ▭ Municipal Boundary

**Site Vicinity Map**

Proposed Small Cell Installation  
 Danielson SC 2 CT  
 172 Main Street  
 Killingly, Connecticut



Base Map Source: 2012 Aerial Photograph (CTECO)  
 Map Scale: 1 inch = 3,000 feet  
 Map Date: December 2014



Proposed bi-directional antenna mounted within proposed RF transparent faux smoke stack to be attached to existing chimney

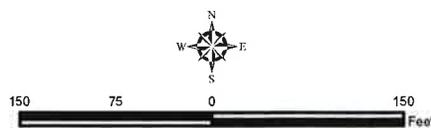
**Legend**

-  Subject Property
-  Approximate Parcel Boundary (CTDEEP GIS)

**Site Schematic**

Proposed Small Cell Installation  
 Danielson SC 2 CT  
 172 Main Street  
 Killingly, Connecticut

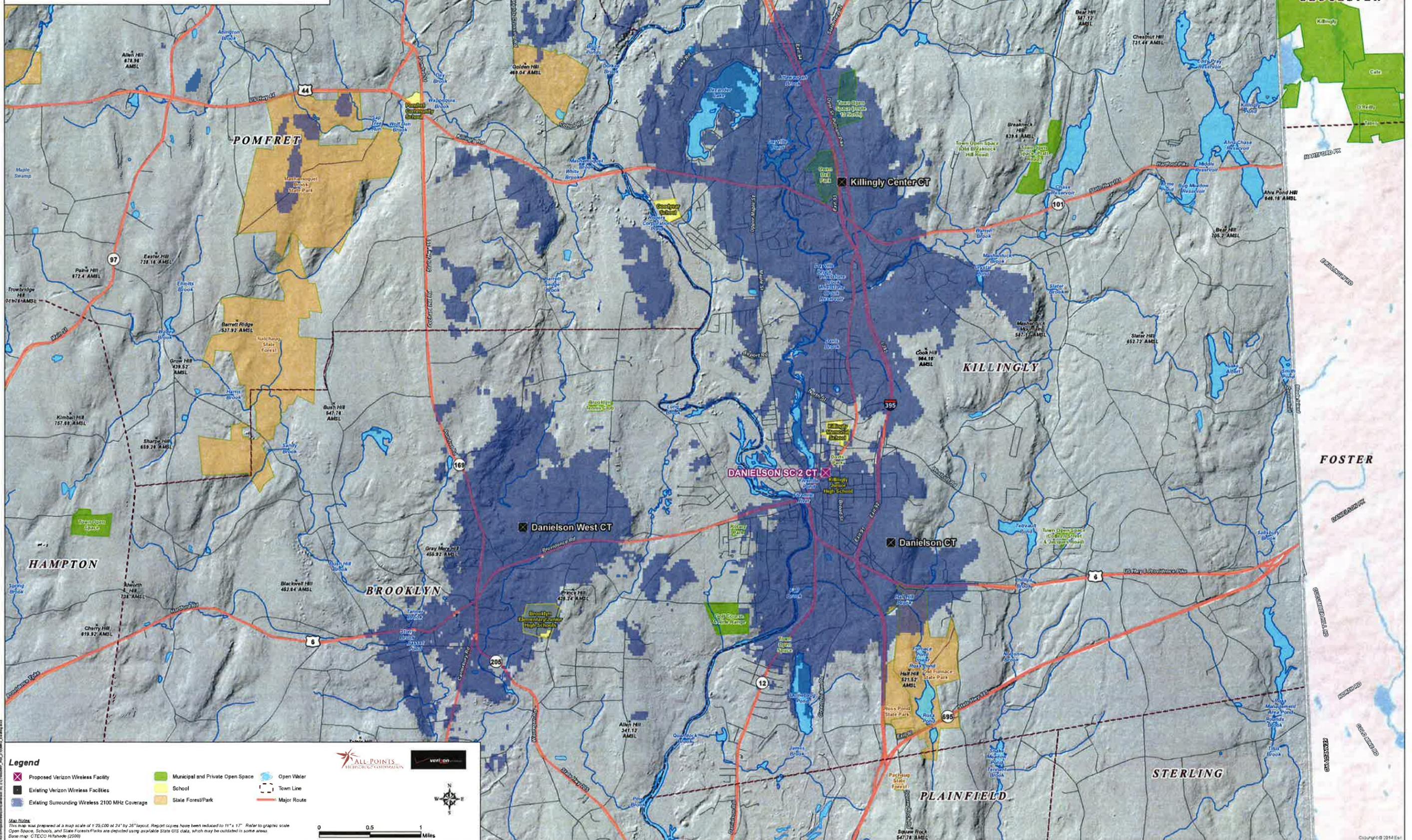
*Map Notes:*  
 Base Map Source: 2012 Aerial Photograph (CTECO)  
 Map Scale: 1 inch = 150 feet  
 Map Date: December 2014



# **ATTACHMENT 2**

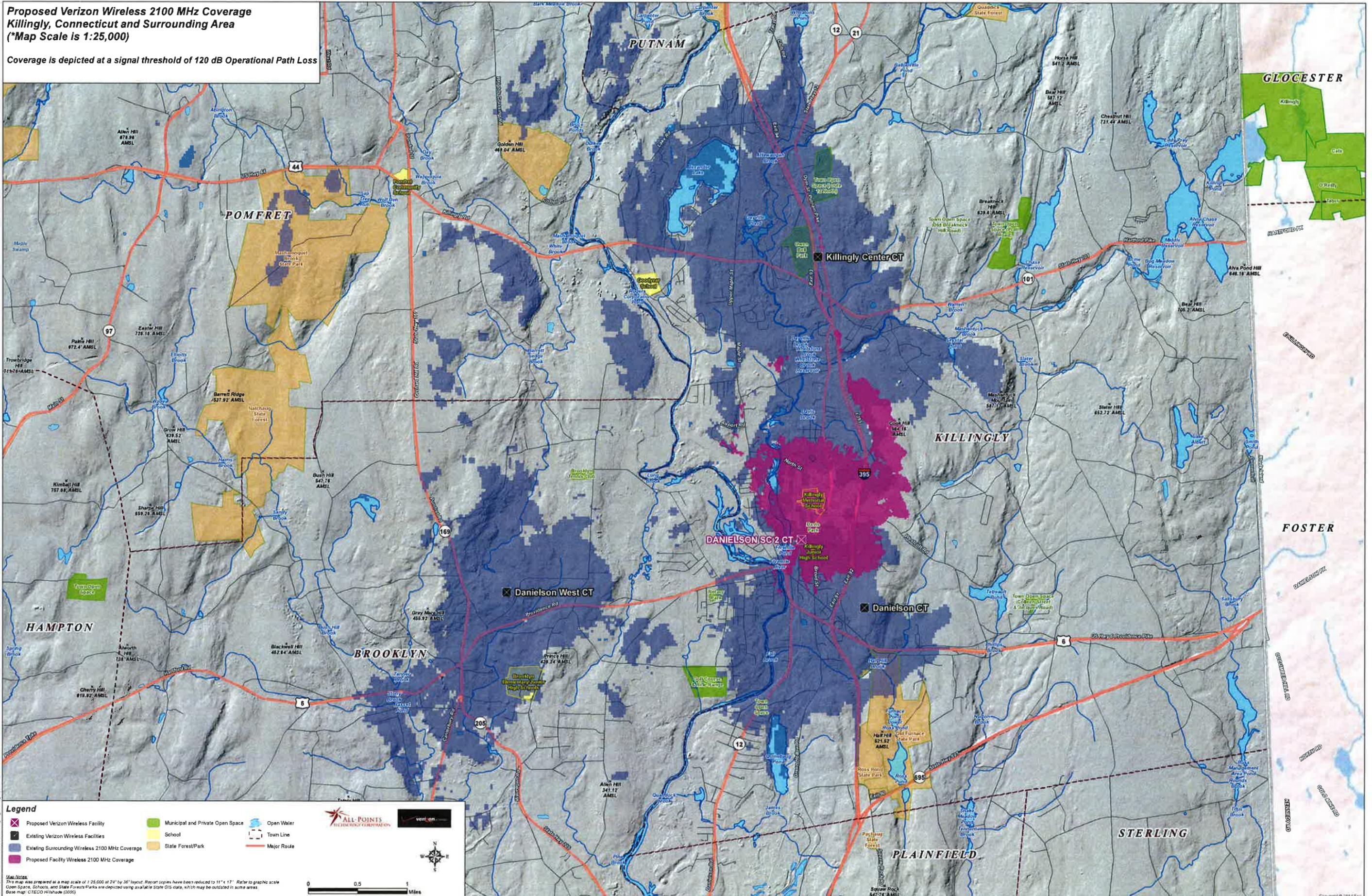
**Existing Verizon Wireless 2100 MHz Coverage  
Killingly, Connecticut and Surrounding Area  
(\*Map Scale is 1:25,000)**

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss



**Proposed Verizon Wireless 2100 MHz Coverage  
Killingly, Connecticut and Surrounding Area  
(\*Map Scale is 1:25,000)**

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss



**Legend**

- ✖ Proposed Verizon Wireless Facility
- ✖ Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 2100 MHz Coverage
- Proposed Facility Wireless 2100 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

**Map Notes:**  
This map was prepared at a map scale of 1:25,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.  
Open Space, Schools, and State Forest/Parks are depicted using available state GIS data, which may be outdated in some areas.  
Base map: CTECO Hillshade (2009)

**Scale:** 0 0.5 1 Miles

**Logos:** ALL-POINTS FULCRUM CORPORATION, verizon

# **ATTACHMENT 3**

# Cellco Partnership



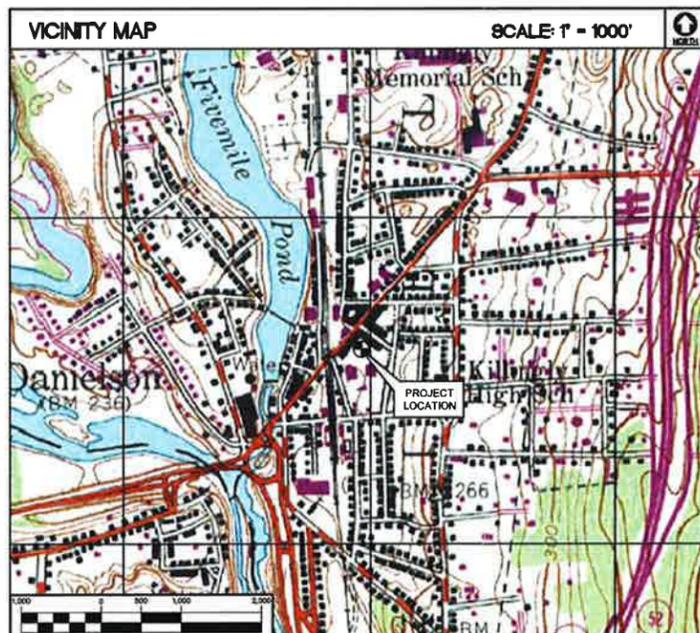
## d.b.a. **verizon** wireless

DANIELSON SC2  
172 MAIN STREET  
KILLINGLY, CT 06239

| SITE DIRECTIONS   |   |
|---|---|
| <b>FROM:</b> 99 EAST RIVER DRIVE<br>EAST HARTFORD, CONNECTICUT              | <b>TO:</b> 172 MAIN STREET<br>KILLINGLY, CT 06239 |
| 1. Head northeast on E River Dr   | 0.2 mi  |
| 2. Turn left onto the CT-2 E ramp to Norwich                                | 3.4 mi  |
| 3. Merge onto I-84 E  | 0.8 mi  |
| 4. Take exit 59 for I-384 E toward Providence                               | 0.8 mi  |
| 5. Keep left to continue toward I-384 E                                     | 7.2 mi  |
| 6. Continue onto I-384 E  | 0.2 mi  |
| 7. Continue onto US-44 E/US-8 E   | 10.8 mi   |
| 8. Keep right to continue on US-8 E, follow signs for Providence/Wilimantic | 5.4 mi  |
| 9. TURN LEFT TO STAY ON US-8 E  | 17.8 mi   |
| 10. US-8 E turns right and becomes US-8 E (signs for Providence)            | 0.4 mi  |
| 11. Turn left onto Main street destination will be on the left              |   |

| GENERAL NOTES  |
|--|
| 1. PROPOSED ANTENNA LOCATIONS AND HEIGHTS PROVIDED BY CELCO PARTNERSHIP. |

| PROJECT SCOPE   |
|---|
| 1. THE PROPOSED SCOPE OF WORK GENERALLY INCLUDES THE INSTALLATION OF A PROPOSED CELCO PARTNERSHIP EQUIPMENT CABINET TO BE LOCATED WITHIN EXISTING ELECTRICAL ROOM AT BASEMENT LEVEL.  |
| 2. A TOTAL OF ONE (1) BI-DIRECTIONAL ANTENNA IS PROPOSED TO BE MOUNTED TO THE EXISTING CHIMNEY WITHIN A PROPOSED RF TRANSPARENT FAUX CHIMNEY AT A CENTERLINE ELEVATION OF ±64.4' A.G.L.   |
| 3. THE PROPOSED ELECTRICAL UTILITIES SHALL BE ROUTED FROM EXISTING ELECTRICAL DEMARC LOCATION TO PROPOSED EQUIPMENT CABINET. THE PROPOSED FIBER TELCO UTILITY SHALL BE ROUTED OVER HEAD ALONG EXISTING TELCO UTILITY ROUTE, PENETRATE THE EXISTING BUILDING AND ROUTED TO PROPOSED EQUIPMENT CABINET. |
| 4. FINAL DESIGN FOR ANTENNA MOUNT SHALL BE INCLUDED IN THE CONSTRUCTION PLANS.  |
| 5. THE PROPOSED WIRELESS FACILITY INSTALLATION WILL BE DESIGNED IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2009 CONNECTICUT SUPPLEMENT.   |



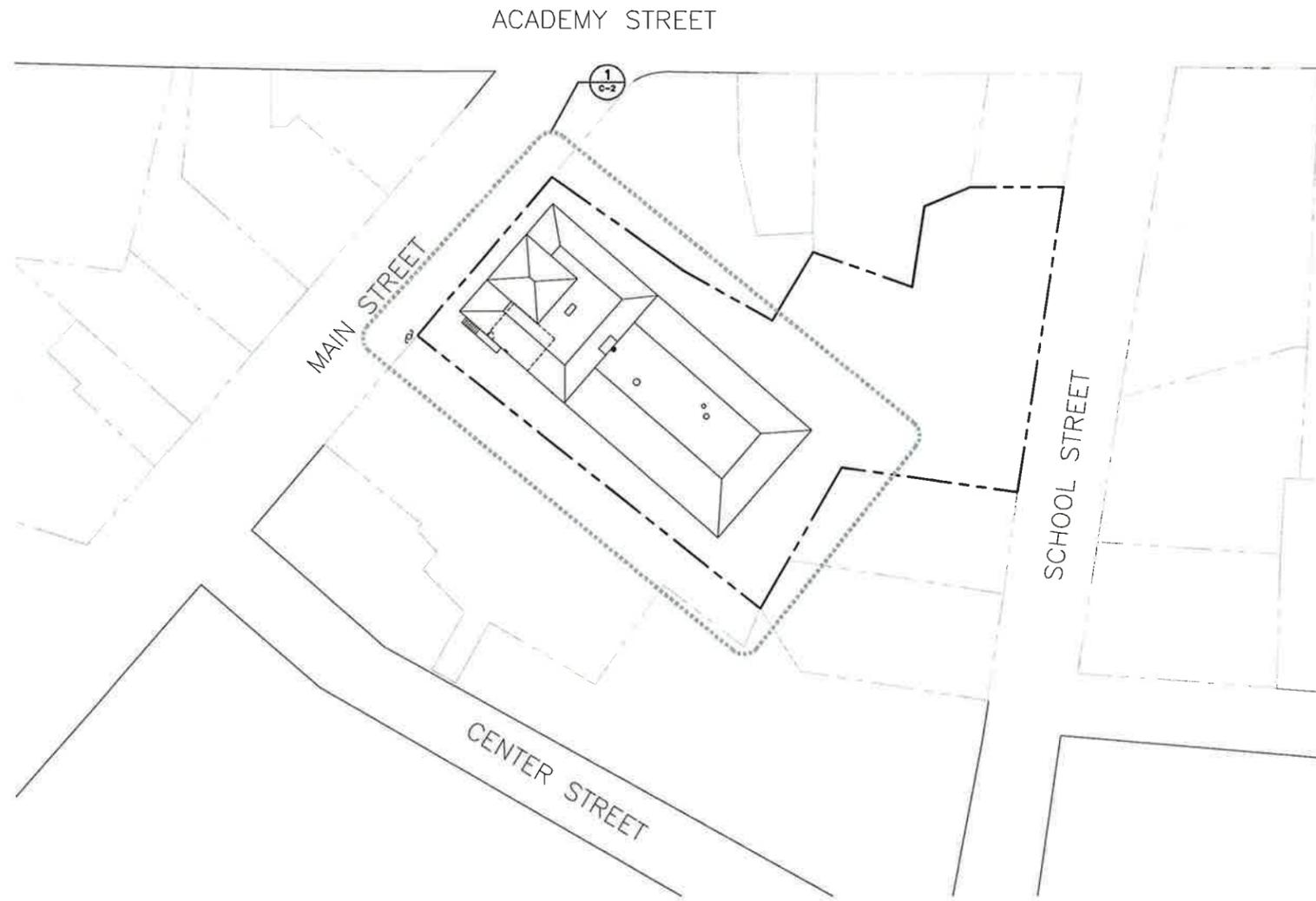
| PROJECT SUMMARY   |  |
|---|--|
| SITE NAME:  | DANIELSON SC2  |
| SITE ADDRESS:   | 172 MAIN STREET<br>KILLINGLY, CT 06239   |
| LESSEE/TENANT:  | CELCO PARTNERSHIP<br>d.b.a. VERIZON WIRELESS<br>99 EAST RIVER DRIVE<br>EAST HARTFORD, CT 06108 |
| CONTACT PERSON:   | SANDY CARTER<br>CELCO PARTNERSHIP<br>(860) 803-8219  |
| SITE COORDINATES:   | LATITUDE: 41°-48'-20.852"N<br>LONGITUDE: 71°-52'-57.264"W<br>GROUND ELEVATION: ±234.2'AMSL     |
| COORDINATES AND GROUND ELEVATION REFERENCED FROM FAA 1-A SURVEY CERTIFICATION AS PREPARED BY MARTINEZ COUCH AND ASSOCIATES LLC, DATED DECEMBER 2, 2014. |  |

| SHEET INDEX |  |          |
|-------------|--|----------|
| SHT. NO.    | DESCRIPTION                            | REV. NO. |
| T-1         | TITLE SHEET                            | 0        |
| C-1         | SITE LOCATION PLAN                     | 0        |
| C-2         | PARTIAL ROOF / SITE PLAN AND ELEVATION | 0        |

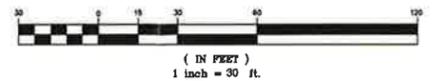
|                            |                                |
|----------------------------|--------------------------------|
| PROFESSIONAL ENGINEER SEAL | ISSUED FOR CSC - CLIENT REVIEW |
| DATE: 12/01/14             | DESCRIPTION                    |
| SCALE: AS NOTED            |                                |
| JOB NO. 14267.000          |                                |
| TITLE SHEET                |                                |
| T-1                        |                                |
| Sheet No. 3 of 3           |                                |

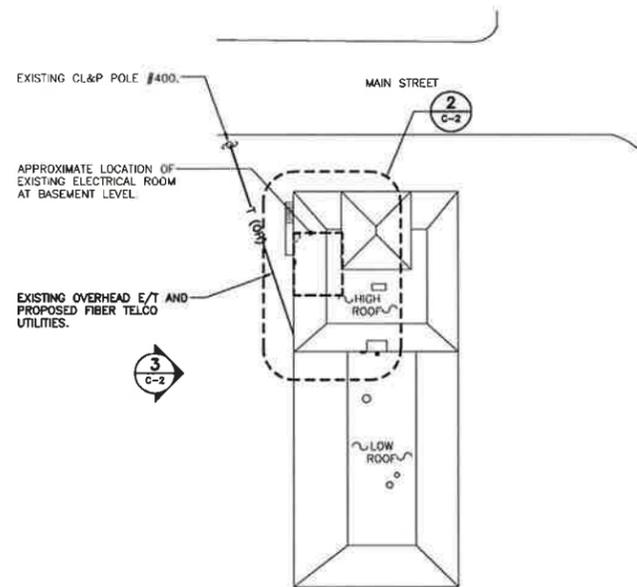
|   |
|---|
| CELLCO PARTNERSHIP<br>d.b.a. VERIZON WIRELESS   |
| CENITEK engineering<br>1703 498-0580<br>1703 498-8827 Fax<br>682 North Branford Road<br>Branford, CT 06405<br>www.CenitekEng.com                |
| Cellco Partnership d/b/a Verizon Wireless<br>WIRELESS COMMUNICATIONS FACILITY<br><b>DANIELSON SC2</b><br>172 MAIN STREET<br>KILLINGLY, CT 06239 |



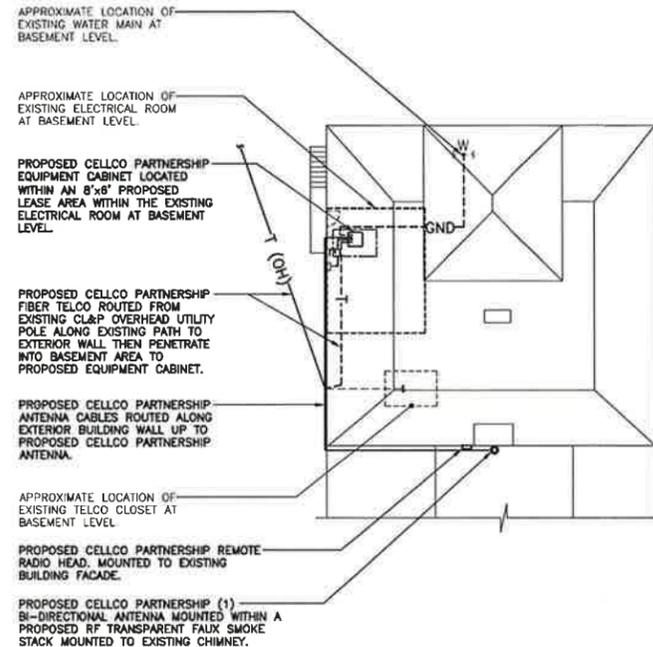
1 SITE LOCATION PLAN  
C-1 SCALE: 1" = 30'



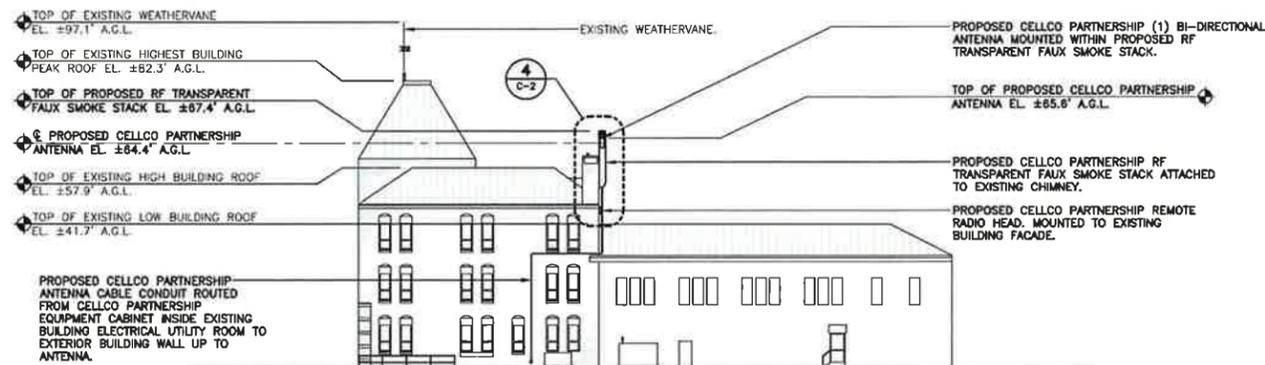
|   |           |   |      |  |          |                                   |             |
|---|-----------|---|------|--|----------|-----------------------------------|-------------|
| <p><b>Cellco Partnership d/b/a Verizon Wireless</b><br/>WIRELESS COMMUNICATIONS FACILITY<br/><b>DANIELSON SC2</b><br/>172 MAIN STREET<br/>KILLINGLY, CT 06263</p> |           | <p><b>CENTEK</b> engineering<br/>Combined on Submittal<br/>203) 498-0380<br/>203) 498-8397 Fax<br/>652 North Branford Road<br/>Branford, CT 06405<br/>www.CentekEng.com</p> |      | <p>Cellco Partnership<br/>d/b/a Verizon Wireless</p> |          | <p>PROFESSIONAL ENGINEER SEAL</p> |             |
| DATE:   | 12/01/14  | ISSUED FOR CSC - CLIENT REVIEW  | DMD  |  |          |                                   |             |
| SCALE:  | AS NOTED  |   | DNA  |  |          |                                   |             |
| JOB NO.   | 14287.000 |   | DATE | 12/04/14   | DRAWN BY | CHK'D BY                          | DESCRIPTION |
| SITE LOCATION PLAN  |           |   |      |  |          |                                   |             |
| C-1   |           |   |      |  |          |                                   |             |
| Sheet No. 2 of 2  |           |   |      |  |          |                                   |             |



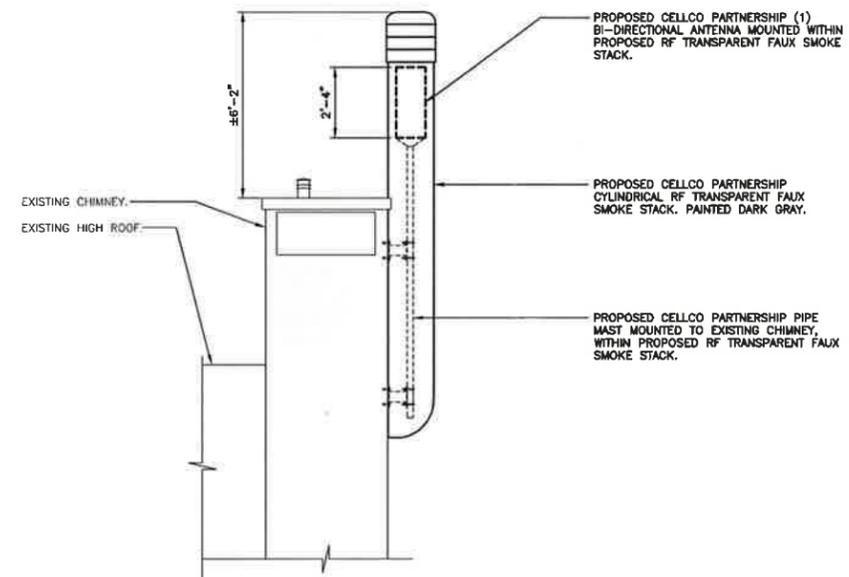
**1 PARTIAL SITE/ROOF PLAN**  
 C-2 SCALE: 1" = 30'  
 GRAPHIC SCALE  
 ( IN FEET )  
 1 inch = 30 ft



**2 PARTIAL SITE/ROOF PLAN**  
 C-2 SCALE: 1" = 15'  
 GRAPHIC SCALE  
 ( IN FEET )  
 1 inch = 15 ft



**3 SOUTHWEST ELEVATION**  
 C-2 SCALE: 1" = 20'  
 GRAPHIC SCALE  
 ( IN FEET )  
 1 inch = 20 ft



**4 ANTENNA MOUNTING DETAIL**  
 C-2 SCALE: 3/8" = 1'-0"

|   |                                |
|---|--------------------------------|
| PROFESSIONAL ENGINEER SEAL  | ISSUED FOR CSC - CLIENT REVIEW |
| Cellco Partnership<br>d/b/a. Verizon Wireless   | DWG DATE DRAWN BY CHK'D BY     |
| CENTEK engineering<br>Combined Solutions  | 0 12/04/14 DWA                 |
| 203 488-0390<br>203 488-5597 Fax<br>53-2 North Branford Road<br>Branford, CT 06405<br>www.CentekEng.com   | REV.                           |
| Cellco Partnership d/b/a Verizon Wireless<br>WIRELESS COMMUNICATIONS FACILITY<br><b>DANIELSON SC2</b><br>172 MAIN STREET<br>KILLINGLY, CT 06263 |                                |
| DATE: 12/01/14<br>SCALE: AS NOTED<br>JOB NO. 14267.000  |                                |
| PARTIAL ROOF/<br>SITE PLAN &<br>ELEVATION   |                                |
| <b>C-2</b>  |                                |
| Sheet No. 3 of 3  |                                |

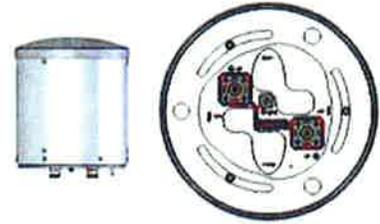
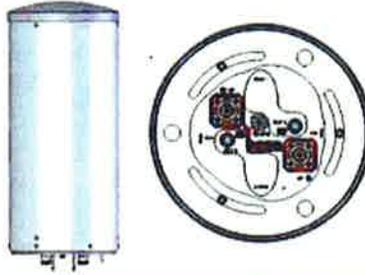
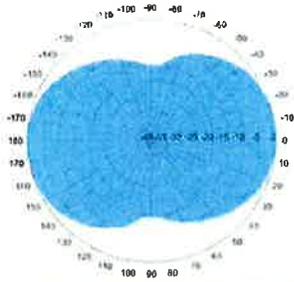
# **ATTACHMENT 4**

Metro Cell Antennas with Internal Diplexer and GPS Antenna

Dualband Bi-Directional (2x65°), Metro Cell Antenna

NH65PS-DG-F0M

NH65PT-DG-F0



ELECTRICAL SPECIFICATIONS

| Operating Frequency Range            | 698 - 896 and 1710 - 2170 MHz |            |             |             |             | 698 - 896 and 1710 - 2170 MHz |            |             |             |             |
|--------------------------------------|-------------------------------|------------|-------------|-------------|-------------|-------------------------------|------------|-------------|-------------|-------------|
|                                      | 698 - 806                     | 806 - 896  | 1710 - 1880 | 1850 - 1990 | 1920 - 2170 | 698 - 806                     | 806 - 896  | 1710 - 1880 | 1850 - 1990 | 1920 - 2170 |
| Frequency Bands, MHz                 | 698 - 806                     | 806 - 896  | 1710 - 1880 | 1850 - 1990 | 1920 - 2170 | 698 - 806                     | 806 - 896  | 1710 - 1880 | 1850 - 1990 | 1920 - 2170 |
| Polarization                         | ±45°                          | ±45°       | ±45°        | ±45°        | ±45°        | ±45°                          | ±45°       | ±45°        | ±45°        | ±45°        |
| Gain, dBi                            | 6.5                           | 7.5        | 10.2        | 10.4        | 10.7        | 3.5                           | 4.5        | 6.1         | 6.2         | 6.5         |
| Beamwidth, Horizontal, degrees       | 70                            | 70         | 65          | 65          | 65          | 70                            | 70         | 65          | 65          | 65          |
| Beamwidth, Vertical, degrees         | 30.0                          | 24.0       | 16.0        | 15.0        | 14.0        | 60.0                          | 55.0       | 16.0        | 15.0        | 14.0        |
| USLS, dB                             | 12                            | 12         | 15          | 15          | 15          | -                             | -          | 12          | 10          | 10          |
| Beam Tilt, degrees                   | 0                             | 0          | 0-16        | 0-16        | 0-16        | 0                             | 0          | 0           | 0           | 0           |
| Isolation, dB                        | 25                            | 25         | 25          | 25          | 25          | 25                            | 25         | 25          | 25          | 25          |
| VSWR (Return Loss, dB)               | 1.5 (14.0)                    | 1.5 (14.0) | 1.5 (14.0)  | 1.5 (14.0)  | 1.5 (14.0)  | 1.5 (14.0)                    | 1.5 (14.0) | 1.5 (14.0)  | 1.5 (14.0)  | 1.5 (14.0)  |
| PIM, 3rd Order, 2 x 20 W, dBc        | -150                          | -150       | -150        | -150        | -150        | -150                          | -150       | -150        | -150        | -150        |
| Input Power per Port, maximum, watts | 250                           | 250        | 250         | 250         | 250         | 250                           | 250        | 250         | 250         | 250         |

MECHANICAL SPECIFICATIONS

|                                  |                    |                    |
|----------------------------------|--------------------|--------------------|
| Connector Interface              | 7 - 16 DIN Female  | 7 - 16 DIN Female  |
| Connector Quantity, Location     | 2, Bottom          | 2, Bottom          |
| GPS Connector Interface          | 4.1/9.5 DIN Female | 4.1/9.5 DIN Female |
| GPS Connector Quantity, Location | 1, Bottom          | 1, Bottom          |
| Length, mm (inch)                | 730 (28.7)         | 360 (14.2)         |
| Outer Diameter, mm (inch)        | 305 (12.0)         | 305 (12.0)         |
| Wind Speed, maximum, km/h (mph)  | 241.4 (150)        | 241.4 (150)        |
| Net Weight, kg (lb)              | 16.0 (35.3)        | 10.0 (22.0)        |

AVAILABILITY

Expected Ready Date for Manufacturing

May 2014

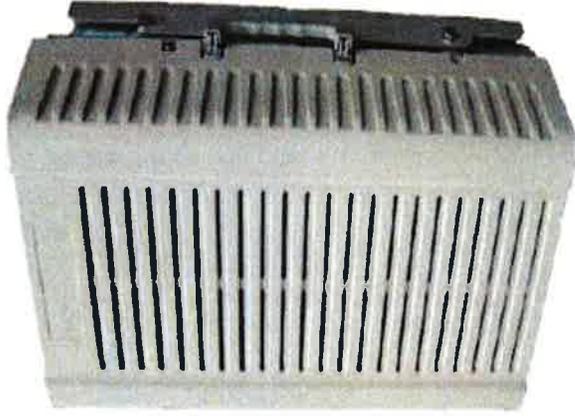
June 2014

# PCS RF MODULES

## RRH1900 2X60 - HW CHARACTERISTICS

LA6.0.1/13.3

|                         |   |
|-------------------------|---|
| <b>RRH2x60</b>          |   |
| RF Output Power         | 2x60W   |
| Instantaneous Bandwidth | 20MHz   |
| Transmitter             | 2 TX  |
| Receiver                | 1900 HW version<br>1900A HW version                                   |
| Features                | 2 Branch RX – LA6.0.1<br>4 Branch RX – LR13.3<br>AISG 2.0 for RET/TMA |
| Power                   | Internal Smart Bias-T<br>-48VDC                                       |
| CPRI Ports              | 2 CPRI Rate 3 Ports   |
| External Alarms         | 4 External User Alarms  |
| Monitor Ports           | TX  |
| Environmental           | GR487 Compliance  |
| RF Connectors           | 7/16 DIN (top mounted)  |



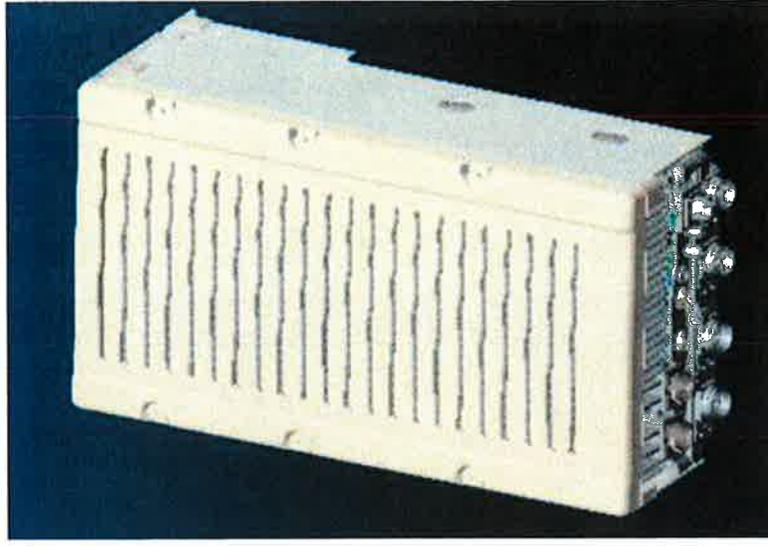
\*\* Not a Verizon Wireless deployed product

# NEW PCS RF MODULES FOR VZW

## RRH2X60 - HW CHARACTERISTICS

LR14.3

|  | RRH2X60                         |
|--|---------------------------------|
| RF Output Power                            | 2x60W (4x30W HW Ready)          |
| Instantaneous Bandwidth                    | 60MHz                           |
| Target Reliability<br>(Annual Return Rate) | <2%                             |
| Receiver                                   | 4 Branch Rx                     |
| Features                                   | AISG 2.0 for RET/TMA            |
| Power                                      | -48VDC<br>Internal Smart Bias-T |
| CPRI Ports                                 | 2 CPRI Rate 5 Ports             |
| External Alarms                            | 4 External User Alarms          |
| Monitor Ports                              | TX, RX                          |
| Environmental                              | GR487 Compliance                |
| RF Connectors                              | 7/16 DIN (downward facing)      |
| Dimensions                                 | 22"(h) x 12"(w) x 9.4" (d)**    |
| Weight                                     | 55lb**                          |



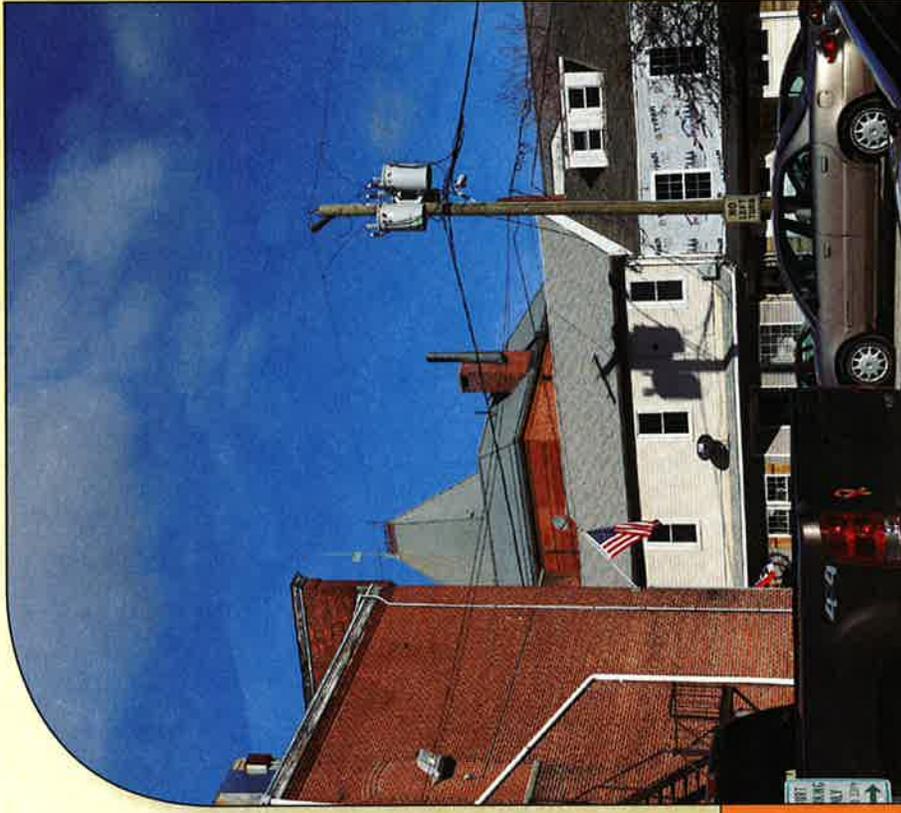
\*\* - Includes solar shield but not mounting brackets (8 lbs.)

ALCATEL-LUCENT – CONFIDENTIAL – SOLELY FOR AUTHORIZED PERSONS HAVING A NEED TO KNOW – PROPRIETARY – USE PURSUANT TO COMPANY INSTRUCTION

# **ATTACHMENT 5**

# Limited Visual Assessments and Photo-Simulations

DANIELSON SC2  
172 MAIN STREET  
KILLINGLY, CT 06239



Prepared in December 2014 by:  
All-Points Technology Corporation, P.C.  
3 Saddlebrook Drive  
Killingworth, CT 06141

Prepared for Verizon Wireless



# LIMITED VISUAL ASSESSMENT & PHOTO-SIMULATIONS

At the request of Cellco partnership LLC d/b/a Verizon Wireless, All-Points Technology Corporation, P.C. ("APT") completed a limited visual assessment and prepared computer-generated photo-simulations depicting the proposed installation of a small cell wireless telecommunications Facility at 172 Main Street in Killingly, Connecticut (the "Property").

## Project Setting

The Property is located east of Main Street (aka State Highway 12) in the commercial, downtown area of Killingly. The Property is currently developed with a three-story brick commercial building. The proposed Facility would include the installation of a single bi-directional antenna (concealed within an RF-transparent stove pipe) mounted on the building's existing chimney, such that it would extend approximately six (6) feet above the top of the chimney. A remote radio head would be mounted to the building's façade below the chimney. Associated equipment would be located within the first floor of the building.

## Methodology

On December 22, 2014, APT personnel conducted a field reconnaissance to photo-document existing conditions. Five (5) nearby locations were selected to depict existing and proposed conditions. At each photo location, the geographic coordinates of the camera's position were logged using global positioning system ("GPS") technology. Photographs were taken with a Canon EOS 6D digital camera body and Canon EF 24 to 105 millimeter ("mm") zoom lens, with the lens set to 50 mm.

*"The lens that most closely approximates the view of the unaided human eye is known as the normal focal-length lens. For the 35 mm camera format, which gives a 24x36 mm image, the normal focal length is about 50 mm."<sup>1</sup>*

Three-dimensional computer models were developed for the building and proposed small cell components from AutoCAD information. Photographic simulations were then generated to portray scaled renderings of the proposed installation. Using field data, site plan information and image editing software, the proposed Facility was scaled to the correct location and height, relative to the existing structure and surrounding area. For presentation purposes in this report, all of the photographs were produced in an approximate 7-inch by 10.5-inch format<sup>2</sup>. A photolog map and copies of the existing conditions and photo-simulations are attached.

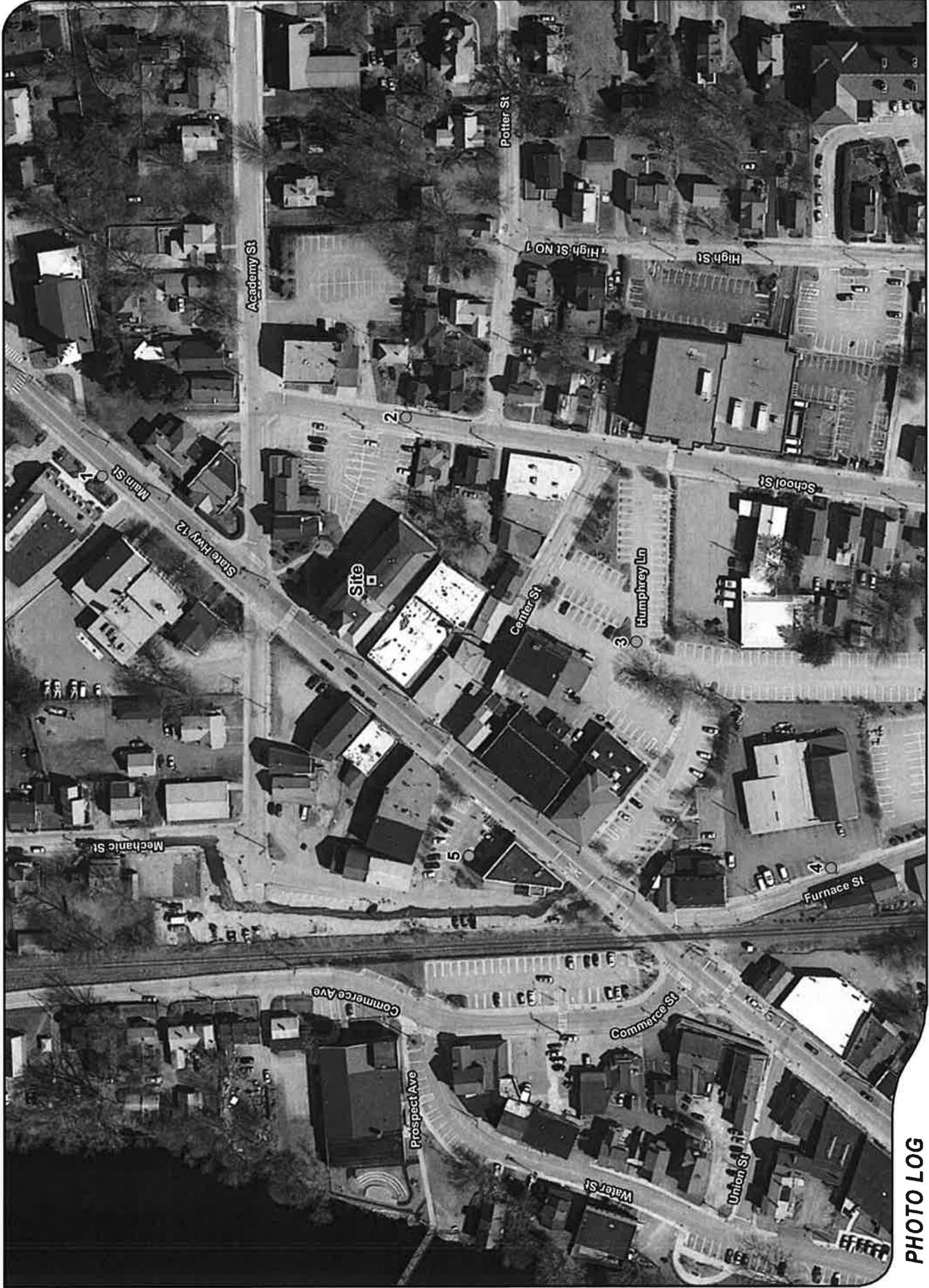
<sup>1</sup> Warren, Bruce. Photography, West Publishing Company, Eagan, MN, c. 1993, (page 70).

<sup>2</sup> When viewing in this format size, we believe it is important to provide the largest representational image while maintaining an accurate relation of sizes between objects within the frame of the photograph and depicting the subject in a way similar to what an observer might see, to the greatest extent possible.

## Conclusions

The visibility of the proposed installation would be limited primarily to locations within a block of the Property, in the immediate area where the west side of the building can be seen today. **The combination of the small cell's relatively low profile above the existing chimney (6± feet) and its concealment within a cylindrical faux stove exhaust pipe results in the facility appearing to be part of the building's heating system.** Similar infrastructure exists on other surrounding buildings within the viewshed. Based on the results of this assessment, it is our opinion that the proposed installation of Verizon Wireless equipment at the Property would have little to no adverse effect on existing views.

## **ATTACHMENTS**



# PHOTO LOG

- Legend
- Site
  - Photo Location





**EXISTING**

| PHOTO | LOCATION    | ORIENTATION | DISTANCE TO SITE |
|-------|-------------|-------------|------------------|
| 1     | MAIN STREET | SOUTHWEST   | +/- 0.07 MILE    |



**PROPOSED**

PHOTO

1

LOCATION

**MAIN STREET**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.07 MILE**



**PROPOSED**

PHOTO

1

LOCATION

**MAIN STREET**

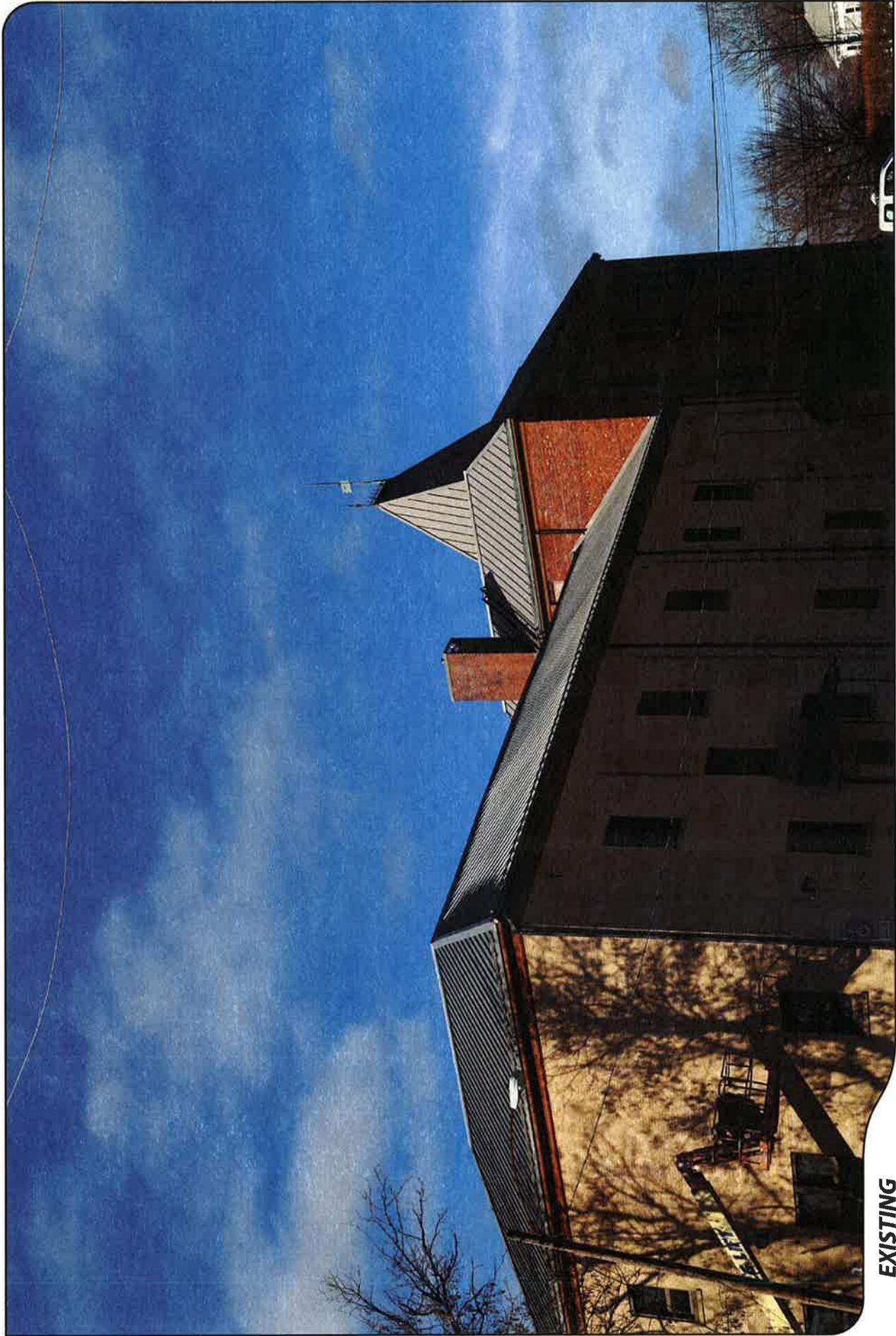
ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.07 MILE**





**EXISTING**

PHOTO

2

LOCATION

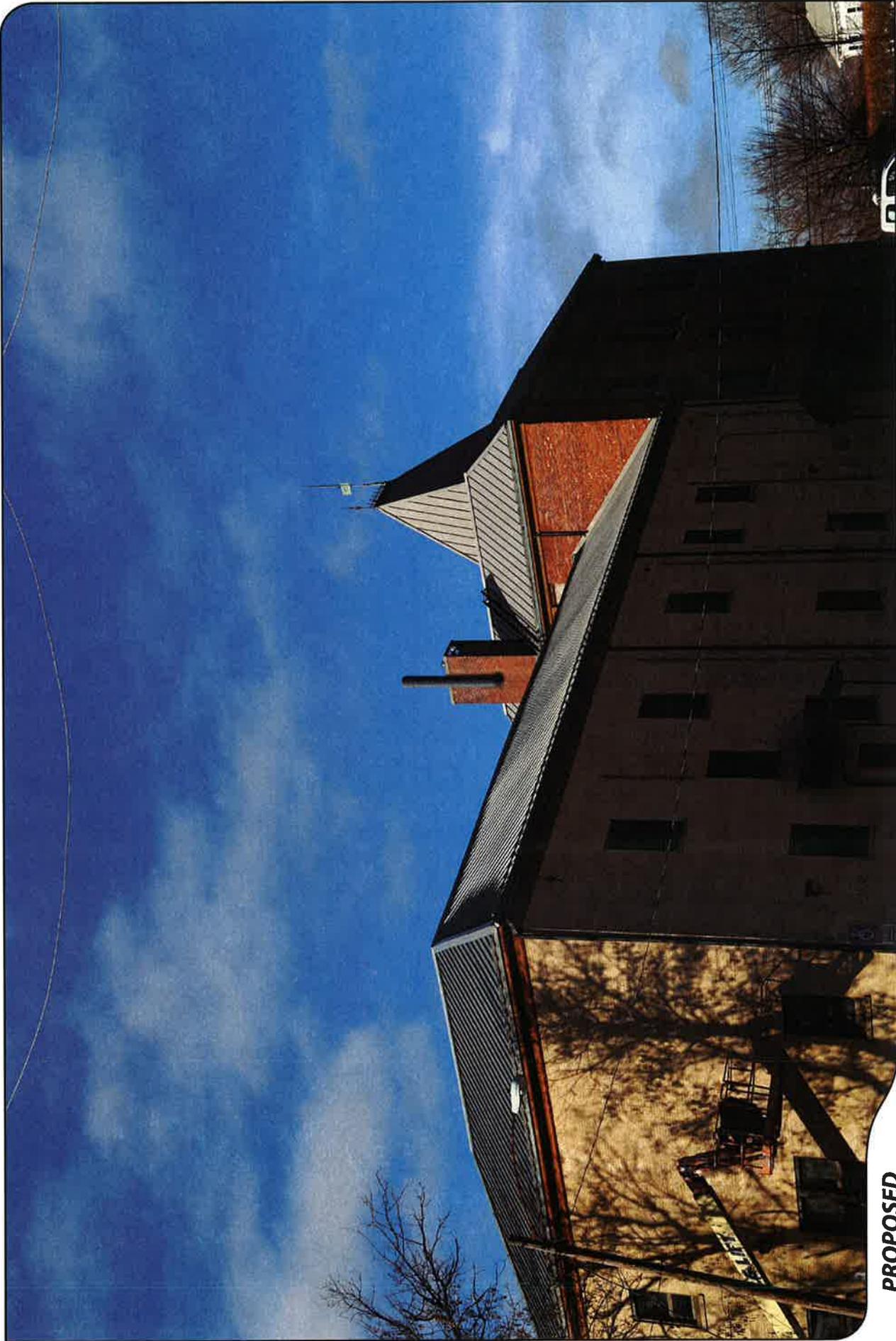
**SCHOOL STREET**

ORIENTATION

**WEST**

DISTANCE TO SITE

**+/- 0.04 MILE**



**PROPOSED**

PHOTO

2

LOCATION

**SCHOOL STREET**

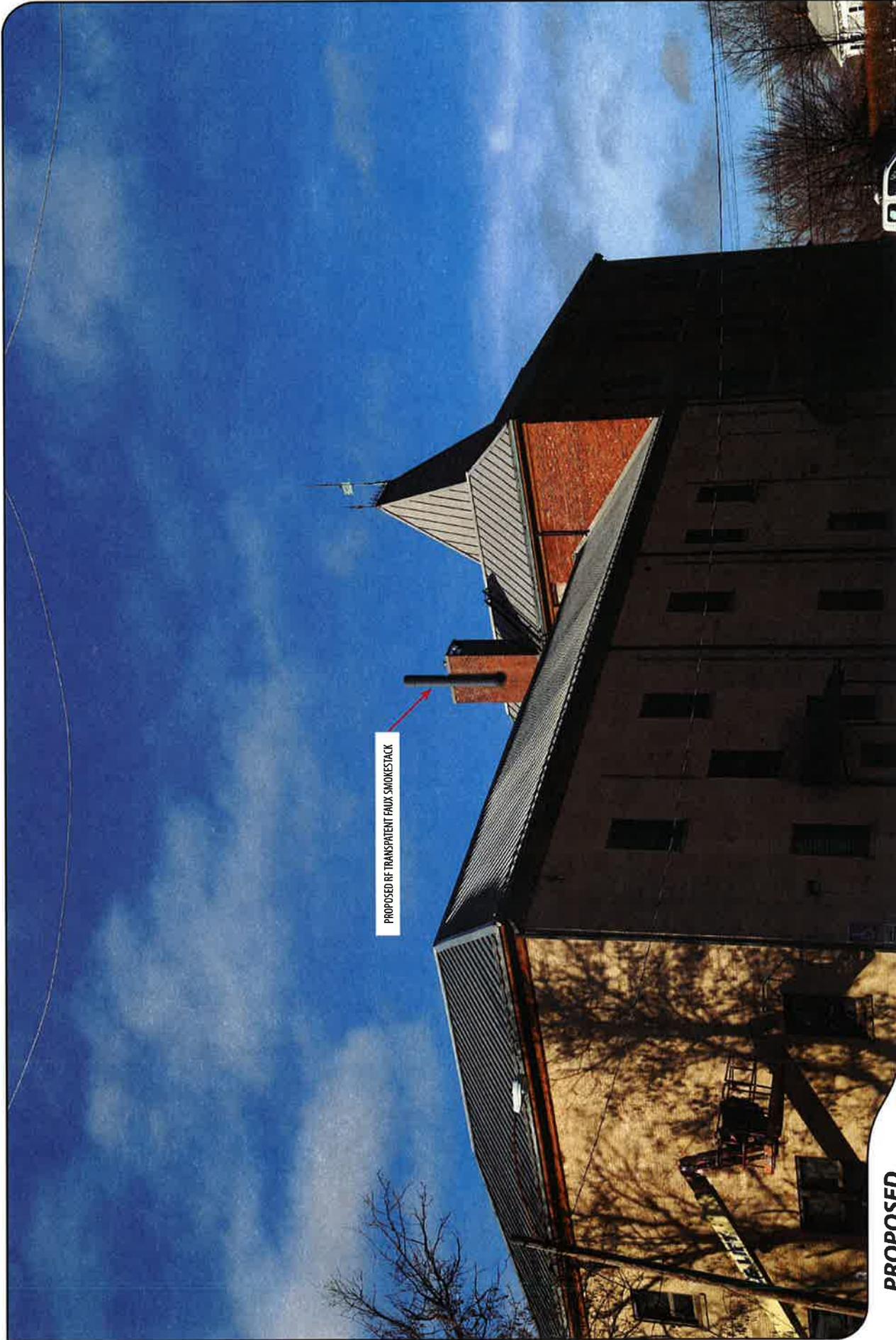
ORIENTATION

**WEST**

DISTANCE TO SITE

**+/- 0.04 MILE**





**PROPOSED**

PHOTO

2

LOCATION

**SCHOOL STREET**

ORIENTATION

**WEST**

DISTANCE TO SITE

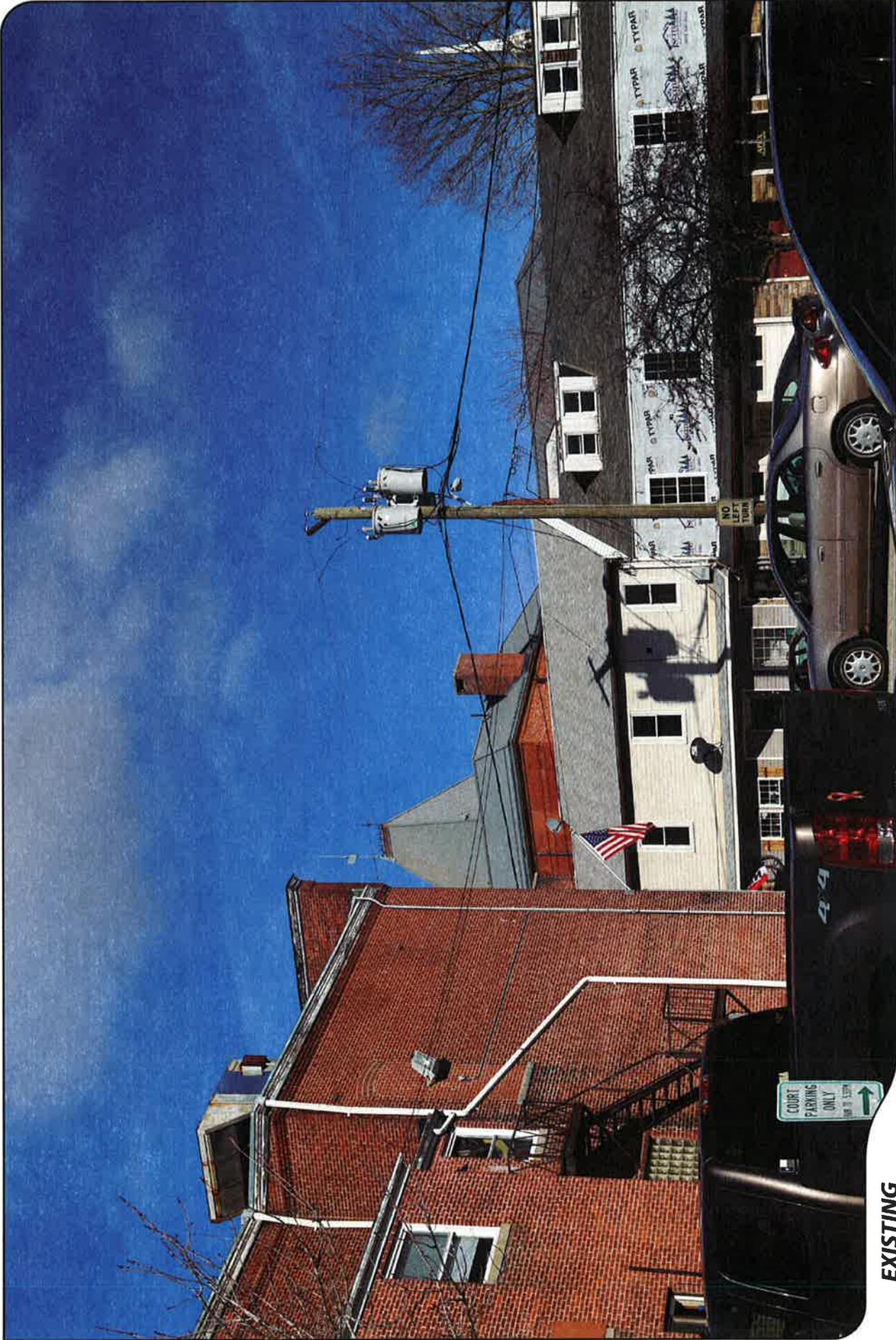
**+/- 0.04 MILE**



**ALL-POINTS**  
TECHNOLOGY CORPORATION



**Veri-on**  
Empire



**EXISTING**

PHOTO

3

LOCATION

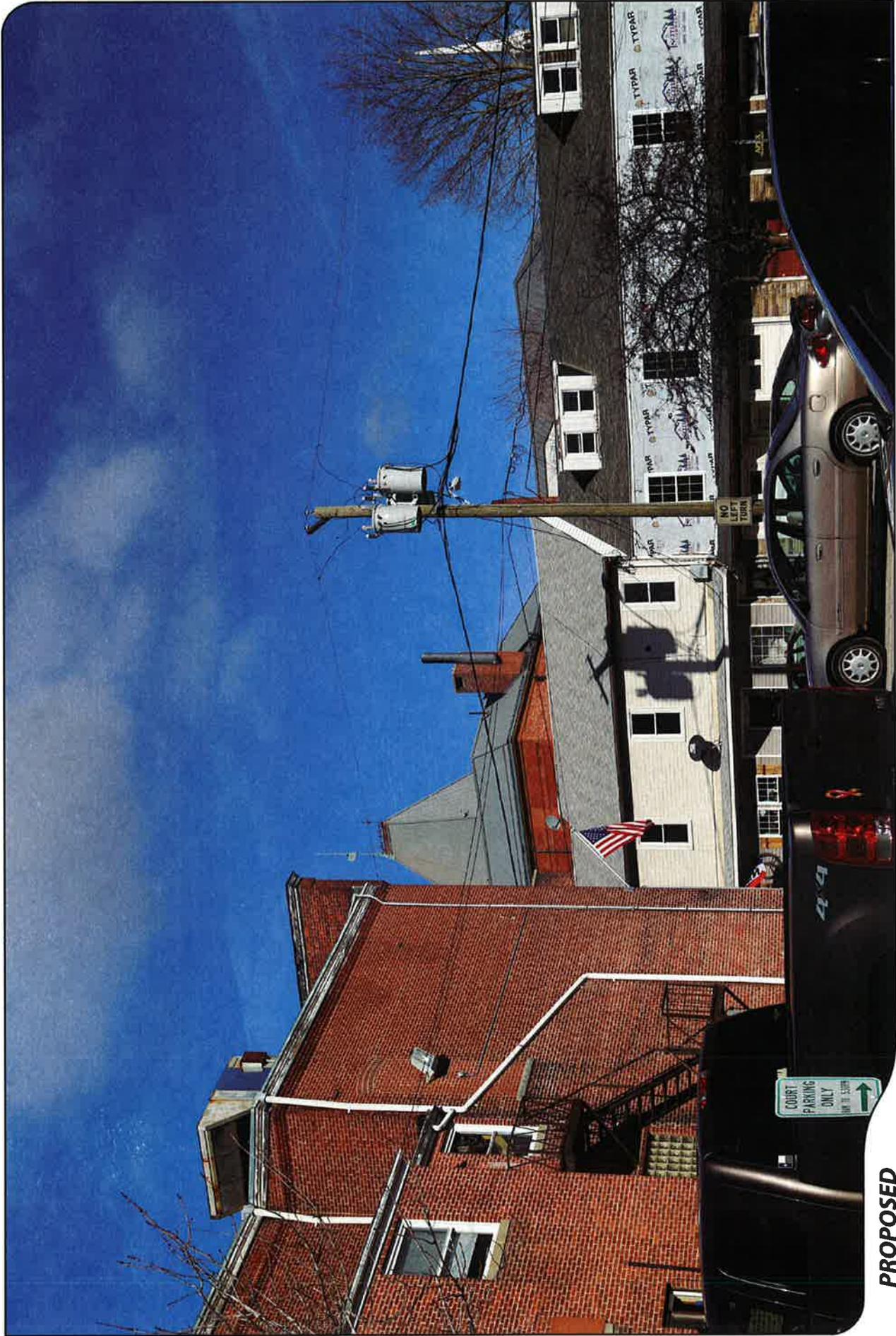
**DANIELSON COURT HOUSE PARKING LOT**

ORIENTATION

**NORTH**

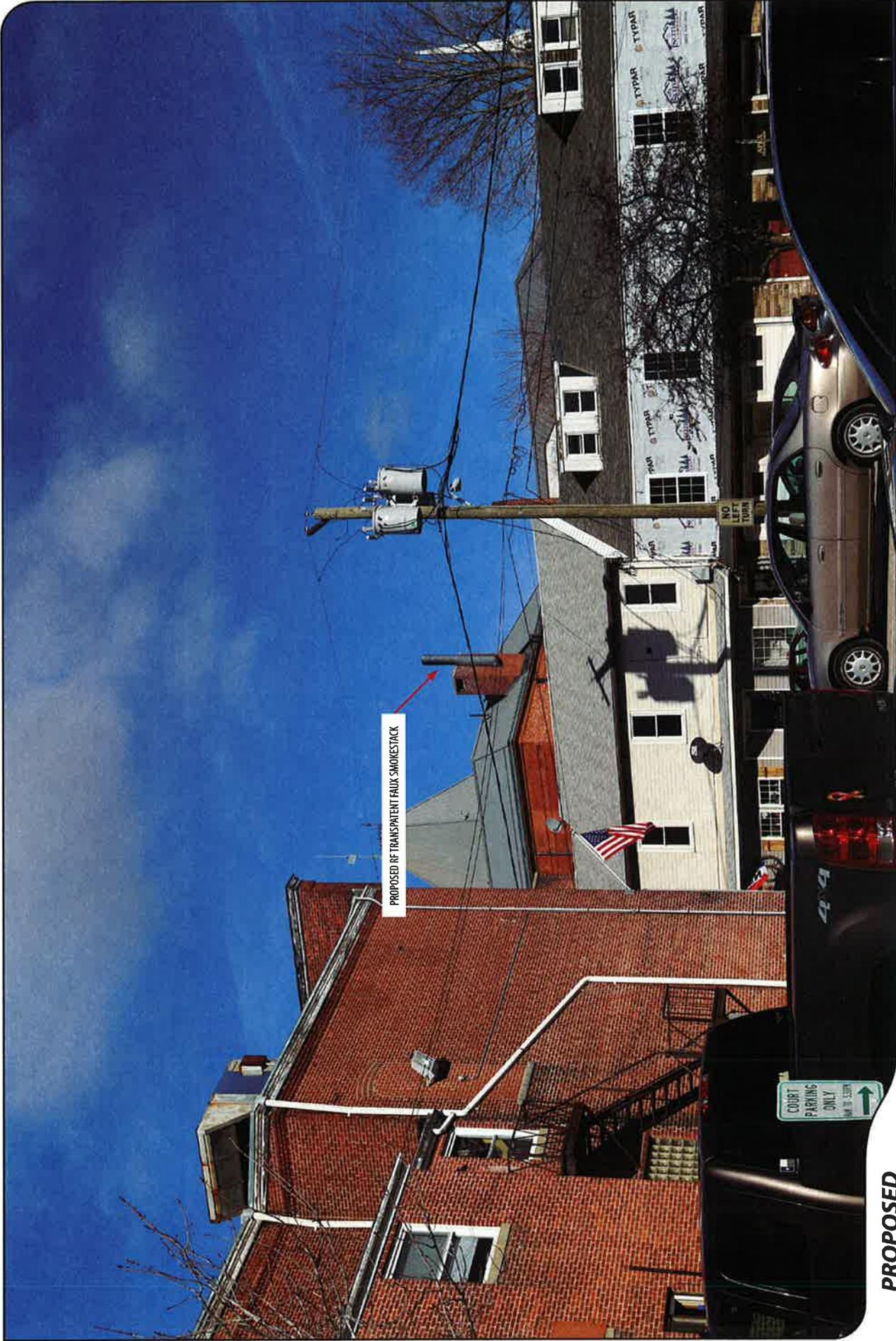
DISTANCE TO SITE

**+/- 0.06 MILE**



**PROPOSED**

| PHOTO | LOCATION                          | ORIENTATION | DISTANCE TO SITE |
|-------|-----------------------------------|-------------|------------------|
| 3     | DANIELSON COURT HOUSE PARKING LOT | NORTH       | +/- 0.06 MILE    |



**PROPOSED**

PHOTO

3

LOCATION

**DANIELSON COURT HOUSE PARKING LOT**

ORIENTATION

**NORTH**

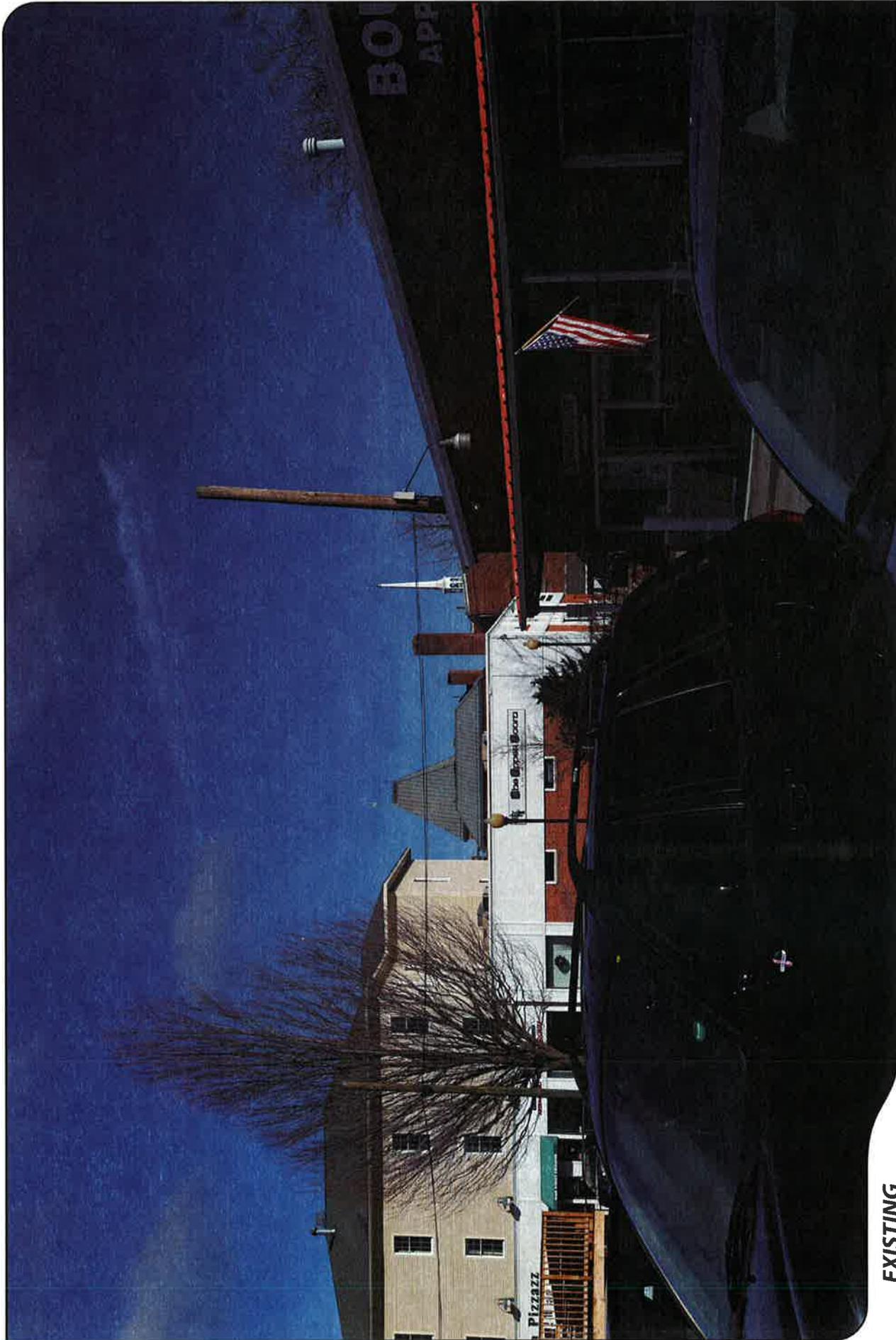
DISTANCE TO SITE

**+/- 0.06 MILE**



**ALL-POINTS**  
TECHNOLOGY CORPORATION





**EXISTING**

PHOTO

4

LOCATION

**FURNACE STREET**

ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

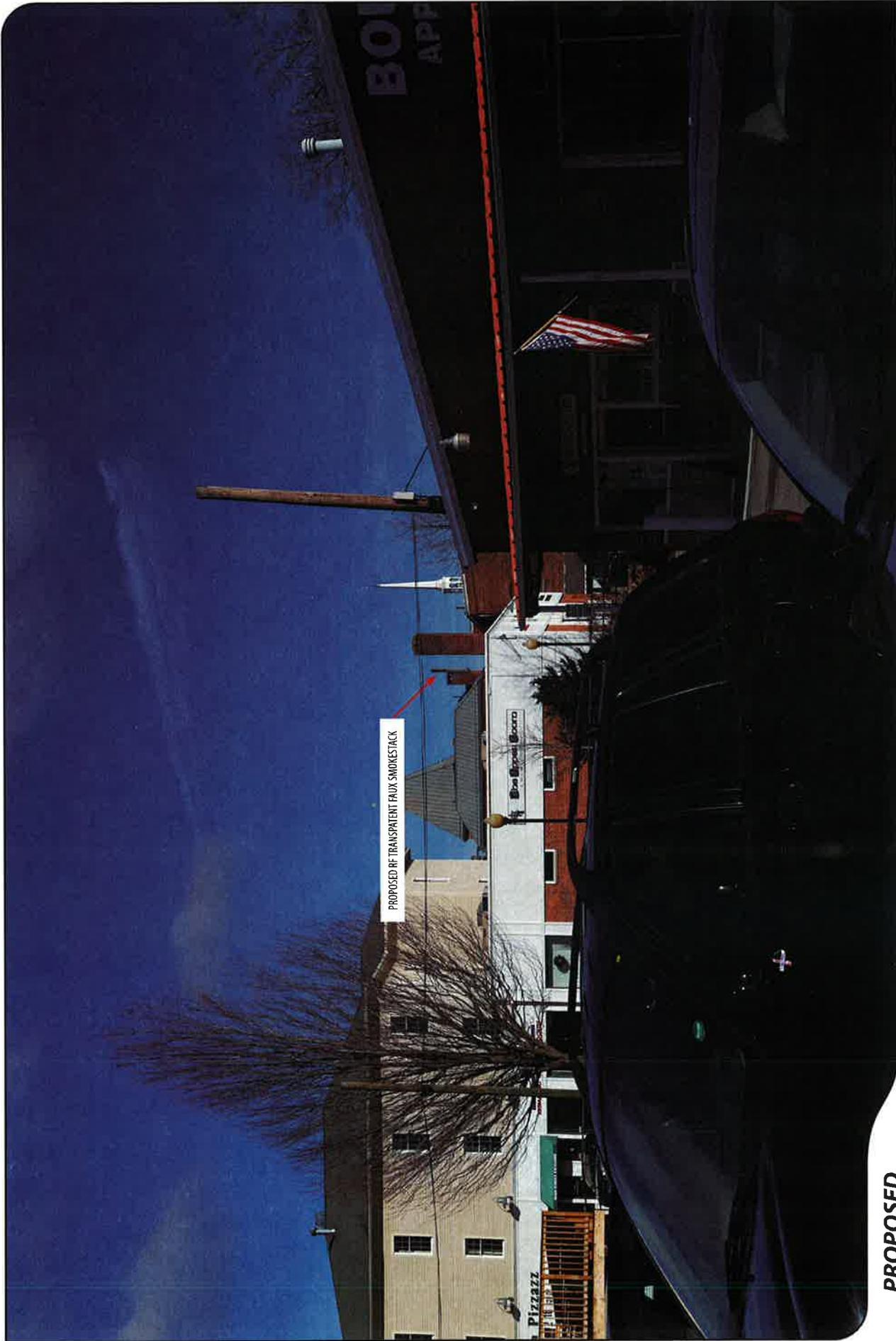
**+/- 0.12 MILE**





**PROPOSED**

| PHOTO | LOCATION       | ORIENTATION | DISTANCE TO SITE |
|-------|----------------|-------------|------------------|
| 4     | FURNACE STREET | NORTHEAST   | +/- 0.12 MILE    |



PROPOSED RF TRANSPARENT FAUX SMOKESTACK

**PROPOSED**

PHOTO

4

LOCATION

**FURNACE STREET**

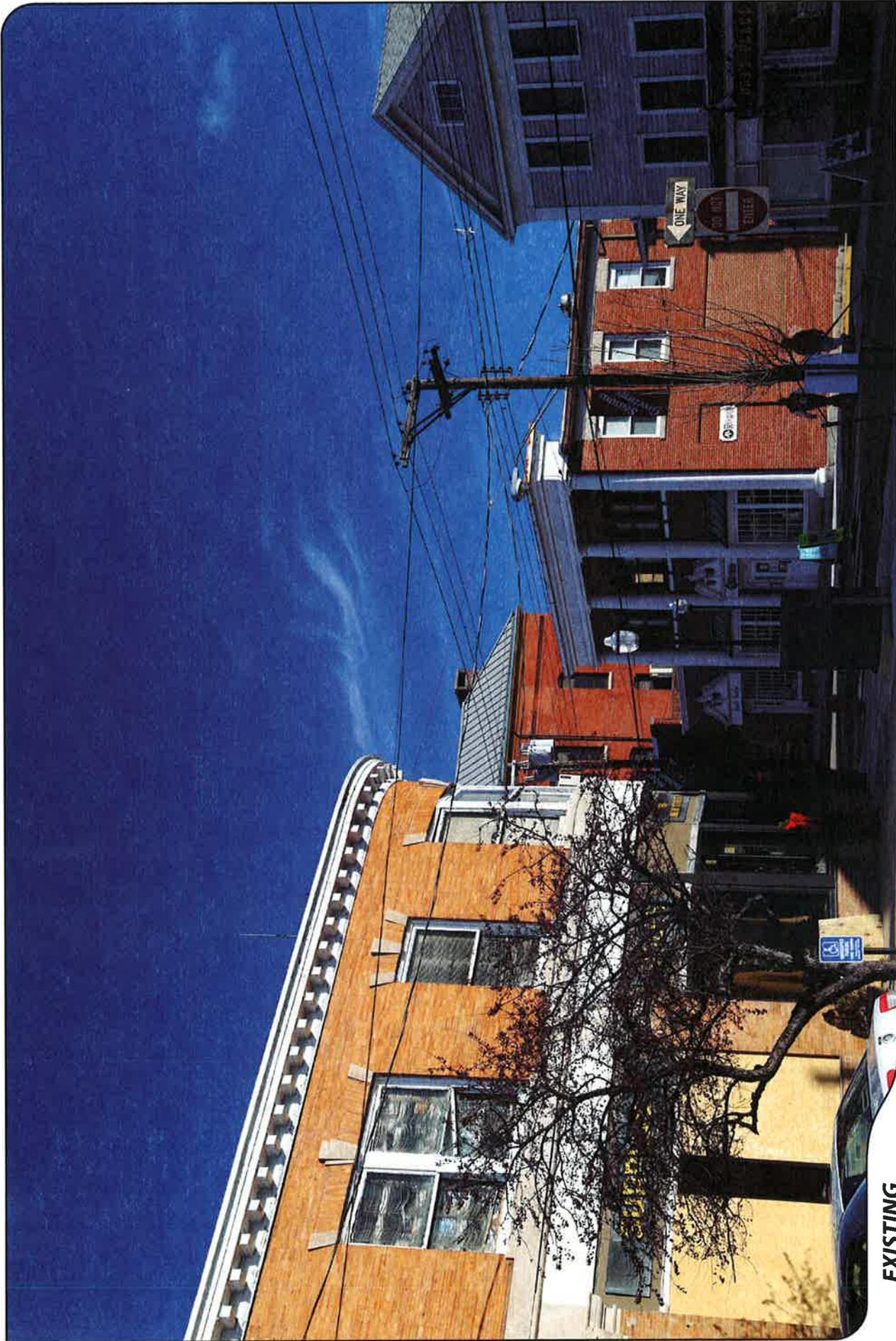
ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 0.12 MILE**





**EXISTING**

PHOTO

5

LOCATION

**CENTRAL STREET**

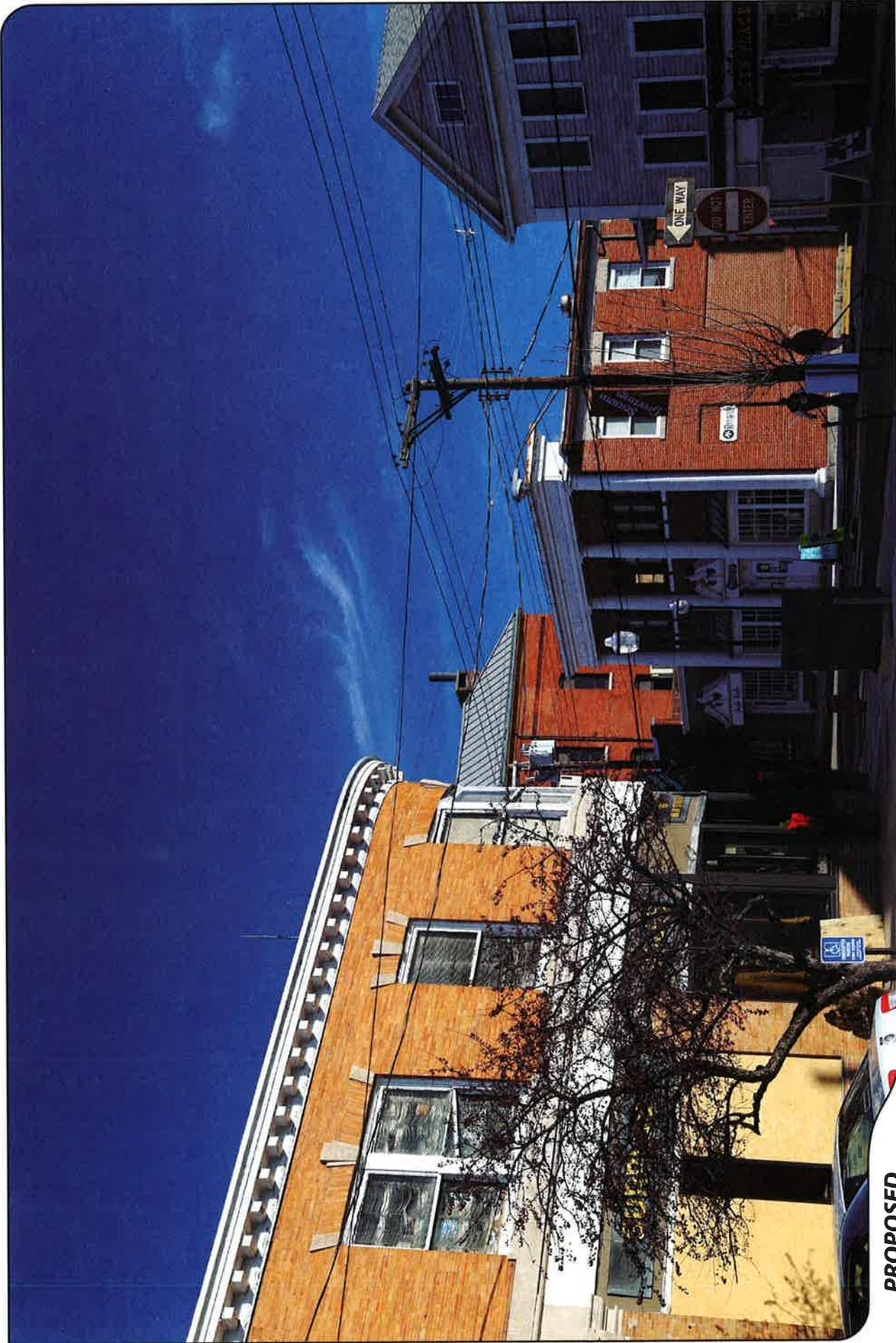
ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 0.07 MILE**





**PROPOSED**

PHOTO

5

LOCATION

**CENTRAL STREET**

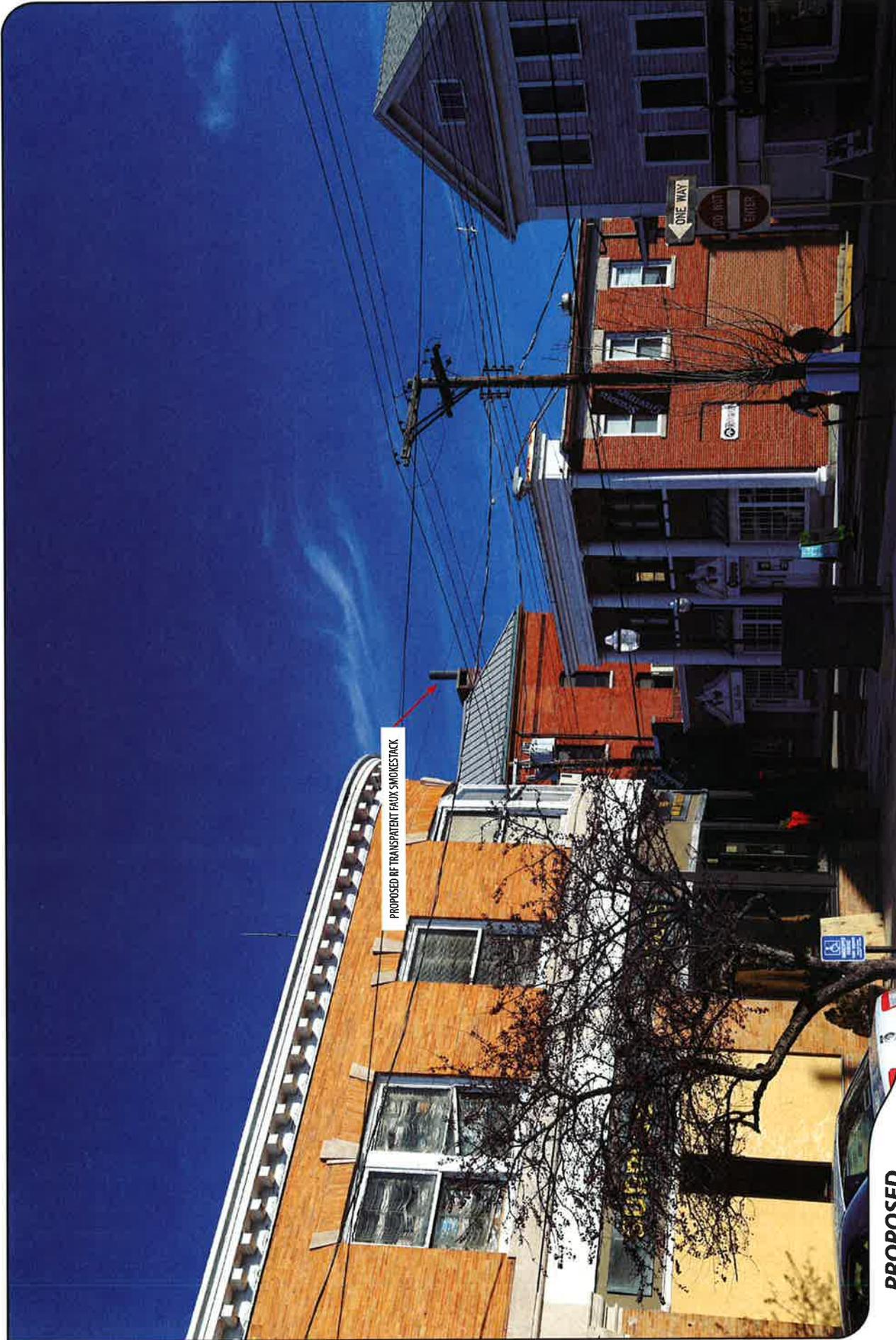
ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 0.07 MILE**





PROPOSED RF TRANSPARENT FAUX SMOKESTACK

**PROPOSED**

PHOTO

5

LOCATION

**CENTRAL STREET**

ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 0.07 MILE**



**ALL-POINTS**  
TECHNOLOGY CORPORATION



# **ATTACHMENT 6**

General Power Density

Site Name: Danielson SC 2, CT  
 Cumulative Power Density

| Operator     | Operating Frequency (MHz) | Number of Trans. | ERP Per Trans. (watts) | Total ERP (watts) | Distance to Target (feet) | Calculated Power Density (mW/cm <sup>2</sup> ) | Maximum Permissible Exposure* (mW/cm <sup>2</sup> ) | Fraction of MPE (%) |
|--------------|---------------------------|------------------|------------------------|-------------------|---------------------------|--|---|---------------------|
| VZW PCS      | 1970                      | 15               | 0                      | 0                 | 57                        | 0.0000   | 1.0   | 0.00%               |
| VZW Cellular | 869                       | 9                | 0                      | 0                 | 57                        | 0.0000   | 0.5793333333  | 0.00%               |
| VZW AWS      | 2145                      | 1                | 1750                   | 1750              | 57                        | 0.1937   | 1.0   | 19.37%              |
| VZW 700      | 746                       | 1                | 0                      | 0                 | 57                        | 0.0000   | 0.4973333333  | 0.00%               |

**Total Percentage of Maximum Permissible Exposure**

19.37%

\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

# **ATTACHMENT 7**

DANIELSON\_SC\_2\_CT.txt  
\*\*\*\*\*  
\* Federal Airways & Airspace \*  
\* Summary Report: New Construction \*  
\* Non-Antenna Structure \*  
\*\*\*\*\*

Airspace User: Your Name

File: DANIELSON\_SC\_2\_CT

Location: Danielson, CT  
Distance: .3 Statute Miles  
Direction: 316° (true bearing)

Latitude: 41°-48'-21.14" Longitude: 71°-52'-57.45"

SITE ELEVATION AMSL.....249 ft.  
STRUCTURE HEIGHT..... 59 ft.  
OVERALL HEIGHT AMSL.....308 ft.

#### NOTICE CRITERIA

FAR 77.9(a): NNR (DNE 200 ft AGL)  
FAR 77.9(b): NNR (DNE Notice Slope)  
FAR 77.9(c): NNR (Not a Traverse Way)  
FAR 77.9: NR Exceeds LZD Rwy 31, TERPS analysis required.  
FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for C44  
FAR 77.9(d): NNR (Off Airport Construction)

NR = Notice Required  
NNR = Notice Not Required  
PNR = Possible Notice Required (depends upon actual IFR procedure)  
For new construction review Air Navigation Facilities at bottom  
of this report.

Notice is required. Height exceeds FAA IFR straight-in screening criteria.  
The maximum height to avoid notice is: 233.8 ft AMSL.

#### OBSTRUCTION STANDARDS

FAR 77.17(a)(1): DNE 499 ft AGL  
FAR 77.17(a)(2): DNE - Airport Surface  
FAR 77.19(a): DNE - Horizontal Surface  
FAR 77.19(b): DNE - Conical Surface  
FAR 77.19(c): DNE - Primary Surface  
FAR 77.19(d): DNE - Approach Surface  
FAR 77.19(e): DNE - Transitional Surface

#### VFR TRAFFIC PATTERN AIRSPACE FOR: LZD: DANIELSON

Type: A RD: 5820.509 RE: 233.8  
FAR 77.17(a)(1): DNE  
FAR 77.17(a)(2): Does Not Apply.  
VFR Horizontal Surface: DNE  
VFR Conical Surface: DNE  
VFR Approach Slope: DNE  
VFR Transitional Slope: DNE

The structure is within VFR - Traffic Pattern Airspace Climb/Descent Area.  
Structures exceeding the greater of 350' AAE, 77.17(a)(2), or VFR horizontal  
and conical surfaces will receive a hazard determination from the FAA.  
Maximum AMSL of Climb/Descent Area is 588 feet.

#### VFR TRAFFIC PATTERN AIRSPACE FOR: C44: TOUTANT

Type: A RD: 71027.71 RE: 756.1  
FAR 77.17(a)(1): DNE

DANIELSON\_SC\_2\_CT.txt  
 FAR 77.17(a)(2): Does Not Apply.  
 VFR Horizontal Surface: DNE  
 VFR Conical Surface: DNE  
 VFR Approach Slope: DNE  
 VFR Transitional Slope: DNE

TERPS DEPARTURE PROCEDURE (FAA Order 8260.3, Volume 4)  
 FAR 77.17(a)(3) Departure Surface Criteria (40:1)  
 DNE Departure Surface

MINIMUM OBSTACLE CLEARANCE ALTITUDE (MOCA)  
 FAR 77.17(a)(4) MOCA Altitude Enroute Criteria  
 The Maximum Height Permitted is 1500 ft AMSL

PRIVATE LANDING FACILITIES

| FACIL  | BEARING  | RANGE | DELTA ARP | FAA |
|--|----------|-------|-----------|-----|
| IDENT TYP NAME   | To FACIL | IN NM | ELEVATION | IFR |
| 31CT HEL QUIET CORNER  | 325.03   | 3.58  | +40       |     |
| No Impact to Private Landing Facility<br>Structure is beyond notice limit by 16752 feet. |          |       |           |     |
| CT10 HEL FLAT ROCK FARM  | 140.26   | 4.92  | -342      |     |
| No Impact to Private Landing Facility<br>Structure 2 ft below heliport.                  |          |       |           |     |
| CT13 AIR YANKEE AIRSTRIP   | 32.68    | 5.52  | -412      |     |
| No Impact to VFR Transitional Surface.<br>Below surface height of 452 ft above ARP.      |          |       |           |     |

AIR NAVIGATION ELECTRONIC FACILITIES

| APCH  | FAC  | ST        | DIST | DELTA  | GRND   |        |       |    |                  |       |
|---|------|-----------|------|--------|--------|--------|-------|----|------------------|-------|
| BEAR  | IDNT | TYPE      | AT   | FREQ   | VECTOR | (ft)   | ELEVA | ST | LOCATION         | ANGLE |
|   | LZD  | CO        | Y    | 119.12 | 318.94 | 7337   | +9    | CT | DANIELSON        | .07   |
|   | PUT  | VOR/DME   | R    | 117.4  | 10.89  | 55505  | -344  | CT | PUTNAM           | -.36  |
|   | PVD  | RADAR     | Y    | 2735.  | 111.88 | 83514  | -268  | RI | THEODORE FRANCIS | -.18  |
| No Impact. This structure does not require Notice based upon EMI.<br>The studied location is within 20 NM of a Radar facility.<br>The calculated Radar Line-Of-Sight (LOS) distance is: 51 NM.<br>This location and height is within the Radar Line-Of-Sight. |      |           |      |        |        |        |       |    |                  |       |
|   | ORW  | VOR/DME   | I    | 110.0  | 199.29 | 96337  | -2    | CT | NORWICH          | 0.00  |
|   | PVD  | VORTAC    | R    | 115.6  | 103.67 | 127114 | +259  | RI | PROVIDENCE       | .12   |
|   | ORH  | RADAR WXL | Y    |        | 1.05   | 169829 | -695  | MA | WORCESTER        | -.23  |
|   | GON  | VOR/DME   | R    | 110.8  | 194.92 | 179347 | +299  | CT | GROTON           | .10   |
|   | HFD  | VOR/DME   | R    | 114.9  | 251.47 | 191163 | -541  | CT | HARTFORD         | -.16  |
|   | BOX  | RADAR WXL | Y    |        | 74.7   | 210313 | +76   | MA | TAUNTON          | .02   |
|   | BDL  | RADAR     | ON   |        | 282.78 | 223154 | +72   | CT | BRADLEY INTL     | .02   |

DANIELSON\_SC\_2\_CT.txt  
CFR Title 47, §1.30000-§1.30004  
AM STUDY NOT REQUIRED: Structure is not near a FCC licensed AM station.  
Movement Method Proof as specified in §73.151(c) is not required.  
Please review 'AM Station Report' for details.

Nearest AM Station: WINY @ 10810 meters.

Airspace® Summary Version 14.9.372

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Copyright © 1989 - 2014

11-20-2014  
14:01:12

# **ATTACHMENT 8**

January 8, 2015

*Via Certified Mail, Return Receipt Requested*

John Hallbergh, Chair  
Killingly Town Council  
Town of Killingly  
P.O. Box 6000  
172 Main Street  
Killingly, CT 06239

Re: **Proposed Installation of a “Small Cell” Telecommunications Facility at Town Hall,  
172 Main Street, Killingly, Connecticut**

Dear Mr. Hallbergh:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a new “small cell” telecommunications facility at Town Hall, 172 Main Street in Killingly (the “Property”). The “small cell” will consist of a single canister-type antenna enclosed in a faux chimney stack on the roof and a single remote radio head attached to the rear building façade at Town Hall. Equipment associated with the “small cell” will be located in a small equipment room inside the basement of the building.

The “small cell” facility will provide improved wireless service to portions of I-395, Route 12 and the downtown Danielson area and capacity relief to two of Cellco’s adjacent cell sites. A copy of the Petition is attached for your review. Landowners whose property abuts the Property were also sent notice of this filing along with a copy of the Petition’s project plans and the site schematic aerial photograph.

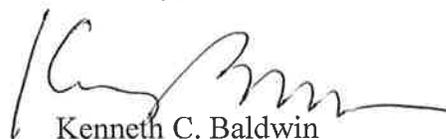
13311891-v1

# Robinson+Cole

John Hallbergh  
January 8, 2015  
Page 2

Please contact me if you have any questions regarding this proposal.

Sincerely,



Kenneth C. Baldwin

KCB/kmd  
Attachment  
Copy to:  
Sandy M. Carter

January 8, 2015

*Via Certified Mail, Return Receipt Requested*

Richard A. Ives, First Selectman  
Town of Brooklyn  
4 Wolf Den Road  
P.O. Box 356  
Brooklyn, CT 06234

Re: **Proposed Installation of a “Small Cell” Telecommunications Facility at Town Hall,  
172 Main Street, Killingly, Connecticut**

Dear Mr. Ives:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a new “small cell” telecommunications facility at Town Hall, 172 Main Street in Killingly (the “Property”). The “small cell” will consist of a single canister-type antenna enclosed in a faux chimney stack on the roof and a single remote radio head attached to the rear building façade at Town Hall. Equipment associated with the “small cell” will be located in a small equipment room inside the basement of the building.

The “small cell” facility will provide improved wireless service to portions of I-395, Route 12 and the downtown Danielson area and capacity relief to two of Cellco’s adjacent cell sites. A copy of the Petition is attached for your review. Landowners whose property abuts the Property were also sent notice of this filing along with a copy of the Petition’s project plans and the site schematic aerial photograph.

You are receiving this letter because the Brooklyn, Connecticut town line is within 2500 feet of the proposed small cell facility.

13353418-v1

# Robinson+Cole

Richard A. Ives  
January 8, 2015  
Page 2

Please contact me if you have any questions regarding this proposal.

Sincerely,



Kenneth C. Baldwin

KCB/kmd  
Attachment  
Copy to:  
Sandy M. Carter

# **ATTACHMENT 9**

KENNETH C. BALDWIN

280 Trumbull Street  
Hartford, CT 06103-3597  
Main (860) 275-8200  
Fax (860) 275-8299  
kbaldwin@rc.com  
Direct (860) 275-8345

Also admitted in Massachusetts

January 8, 2015

***Via Certified Mail, Return Receipt Requested***

«Name\_and\_Address»

**Re: Notice of Intent to File a Petition for Declaratory Ruling with the Connecticut Siting Council for the Installation of a “Small Cell” Telecommunications Facility at Town Hall, 172 Main Street, Killingly, Connecticut**

Dear «Salutation»:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a new “small cell” telecommunications facility at Killingly Town Hall, 172 Main Street in Killingly (the “Property”). Cellco intends to attach a single canister-type antenna to a new mast to an existing chimney on the west side of the building. The mast and antenna will be concealed in a faux chimney stack. Equipment associated with the facility will be installed inside an equipment room in the basement of the building. A set of Project Plans and an aerial photograph showing the location of Cellco’s proposed small cell are attached for your review.

This notice is being sent to you because you are listed as an owner of land that abuts the Property. If you have any questions regarding the Petition, the Council’s process for reviewing the proposed petition or the details of the filing itself, please feel free to contact me at the number listed above. You may also contact the Council directly at 860-827-2935.

January 8, 2015  
Page 2

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth C. Baldwin". The signature is fluid and cursive, with a long horizontal stroke at the end.

Kenneth C. Baldwin

Attachment

Copy to:

Sandy M. Carter



SITE LOCATION PLAN

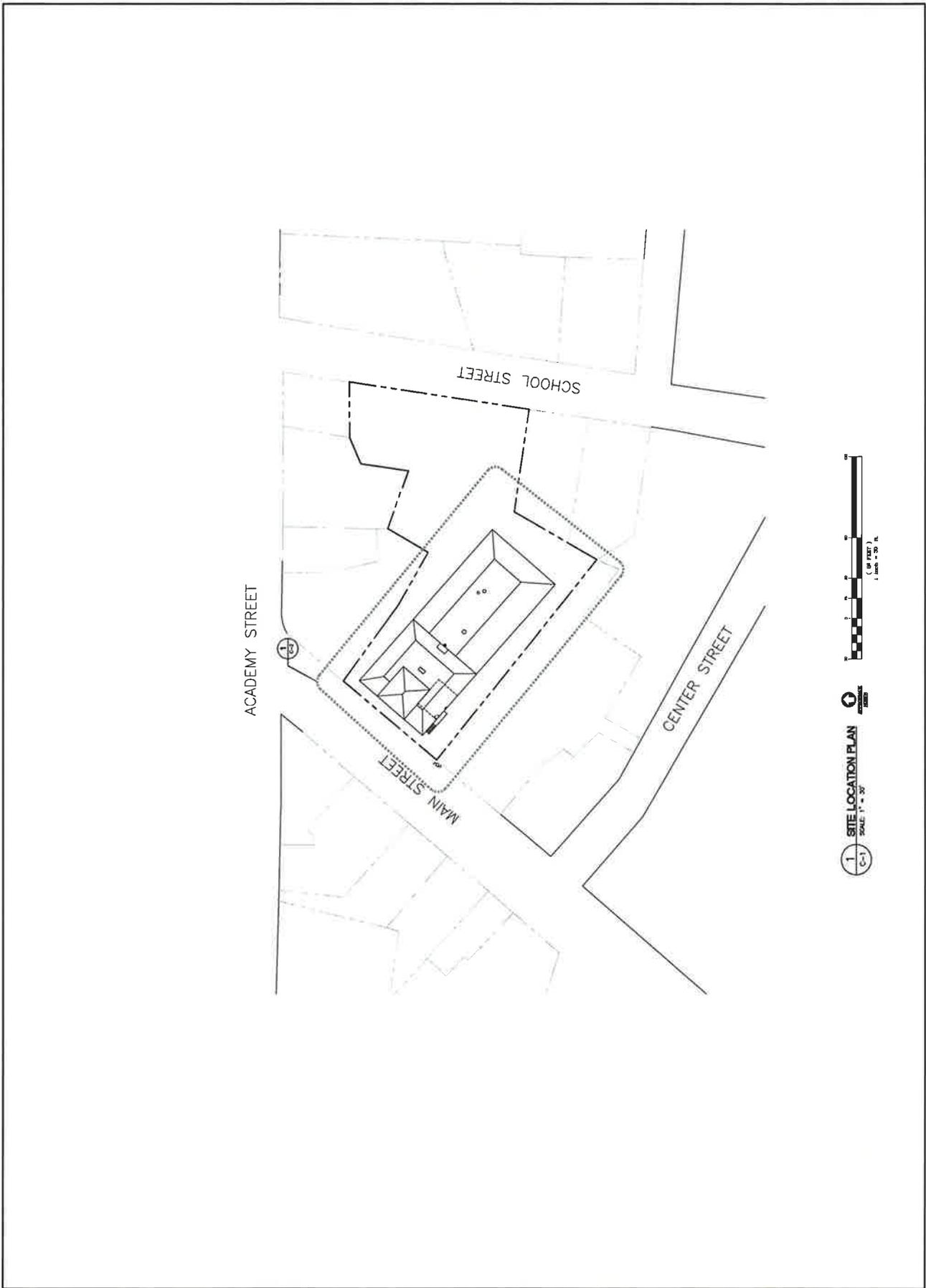
DATE: 12/10/14  
 SCALE: AS SHOWN  
 DRAWN BY: [Name]

**DANIELSON SC2**  
 WIRELESS COMMUNICATIONS FACILITY  
 72 MAIN STREET  
 HARTFORD, CT 06183

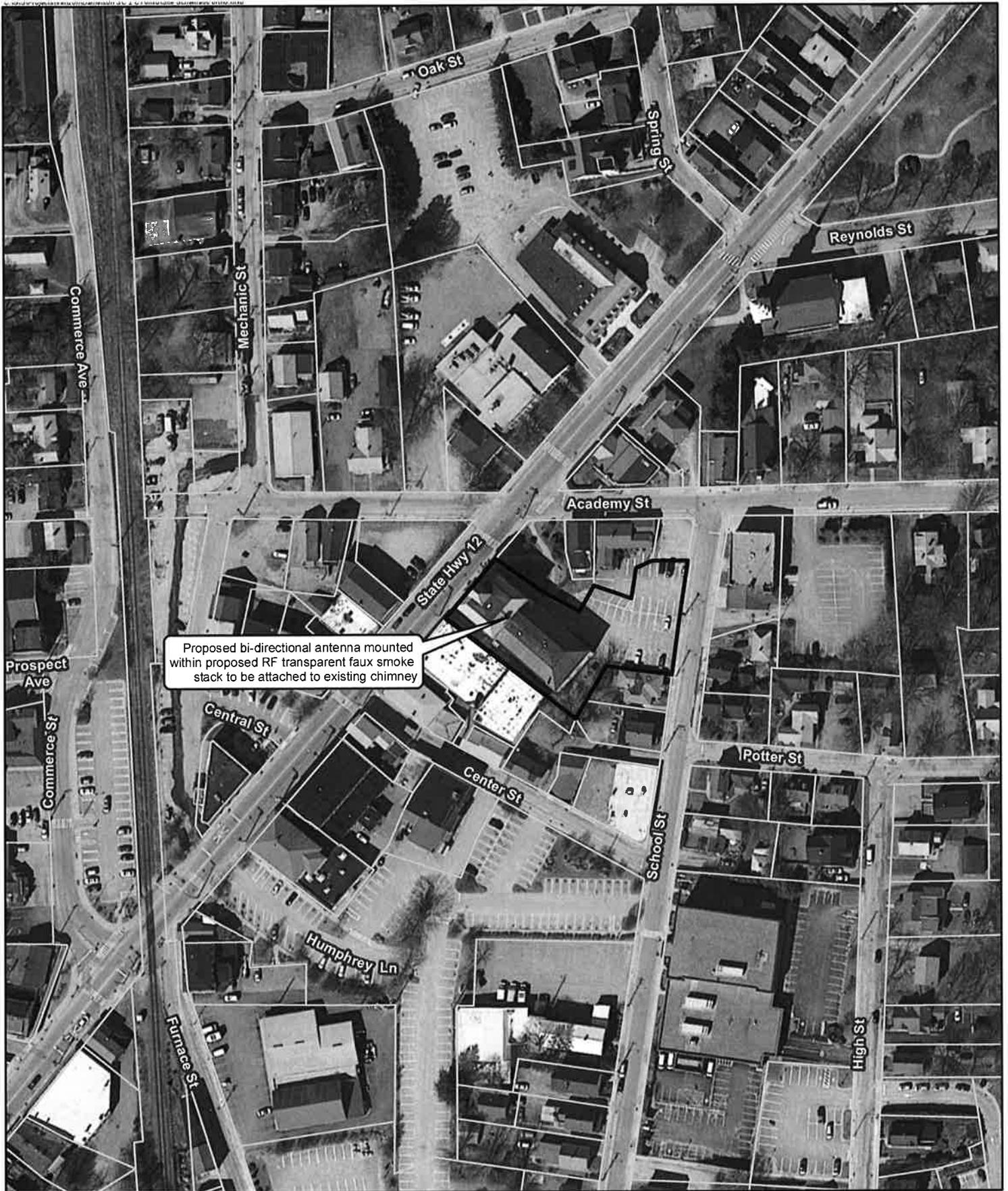
**CENITEK**  
 200 ASHWOOD DRIVE  
 HARTFORD, CT 06183  
 www.cenitek.com

**Calco Partnership**  
 615 VERTON STREET  
 HARTFORD, CT 06183

| REV. | DATE     | BY  | CHKD. | DESCRIPTION                 |
|------|----------|-----|-------|-----------------------------|
| 0    | 12/21/14 | DAK | DMO   | ISSUED FOR DEC - CIVIL WORK |
|      |          |     |       |                             |
|      |          |     |       |                             |
|      |          |     |       |                             |
|      |          |     |       |                             |
|      |          |     |       |                             |
|      |          |     |       |                             |
|      |          |     |       |                             |
|      |          |     |       |                             |
|      |          |     |       |                             |







Proposed bi-directional antenna mounted within proposed RF transparent faux smoke stack to be attached to existing chimney

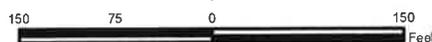
**Legend**

-  Subject Property
-  Approximate Parcel Boundary (CTDEEP GIS)

**Site Schematic**

Proposed Small Cell Installation  
 Danielson SC 2 CT  
 172 Main Street  
 Killingly, Connecticut

*Map Notes:*  
 Base Map Source: 2012 Aerial Photograph (CTECO)  
 Map Scale: 1 inch = 150 feet  
 Map Date: December 2014



**CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS**

**ABUTTERS LIST  
MAP 198/ LOT 125**

**172 MAIN STREET  
KILLINGLY, CONNECTICUT**

|    | <u>Map/Lot</u> | <u>Property Address</u> | <u>Owner and Mailing Address</u>  |
|----|----------------|-------------------------|---|
| 1. | 198/120        | 47 Academy Street       | Borough of Danielson<br>47 Academy Street<br>Danielson, CT 06239                          |
| 2. | 198/169        | 146 School Street       | Barbara E. Aldrich and Ronald Pudsey<br>146 School Street<br>Danielson, CT 06239          |
| 3. | 198/170        | 142 School Street       | Alison America and Armand Gumont<br>P.O. Box 311<br>Danielson, CT 06239                   |
| 4. | 198/168        | 143 School Street       | Santopoulos and Santopoulos LLP<br>143 School Street<br>Danielson, CT 06239               |
| 5. | 198/167        | 139 School Street       | Christian and Rachel Santopoulos<br>339 Wrights Crossing Road<br>Pomfret Center, CT 06259 |
| 6. | 198/129        | 16 Center Street        | Center Investments LLC<br>792 Cook Hill Road<br>Danielson, CT 06239                       |
| 7. | 198/126        | 162 Main Street         | Thomas R. and Toni-Marie LaFollette<br>P.O. Box 586<br>Danielson, CT 06239                |
| 8. | 198/083        | 161 Main Street         | Passco LLC<br>292 Main Street<br>Danielson, CT 06239                                      |
| 9. | 198/084        | 165 Main Street         | Thomas R. and Toni-Marie LaFollette<br>P.O. Box 586<br>Danielson, CT 06239                |

|     | <u>Map/Lot</u> | <u>Property Address</u> | <u>Owner and Mailing Address</u>                                     |
|-----|----------------|-------------------------|--|
| 10. | 198/124        | 178 Main Street         | Town of Killingly<br>172 Main Street<br>Danielson, CT 06239          |
| 11. | 198/122        | 35 Academy Street       | Thomas E. Dupont<br>P.O. Box 267<br>Danielson, CT 06239              |
| 12. | 198/121        | 39 Academy Street       | Hampton Valley View LLC<br>189 No. Bigelow Road<br>Hampton, CT 06247 |